ORDER NO. VMD9603M118

Service Manual

Simplified

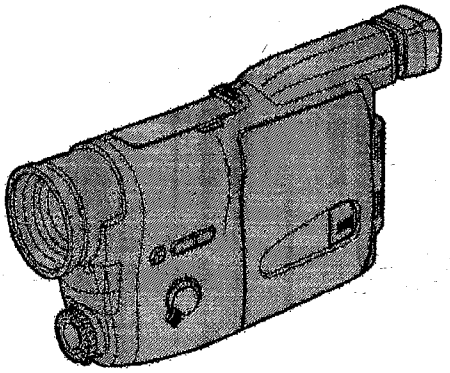
VHS C PAL

HQ

VHS-C Movie

NV-RX7 EG/A EN/EE

DL-MECHANISM



SPECIFICATIONS\ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
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CIRCUIT BOARD LAYOUT\РАЗМЕЩЕНИЕ МОНТАЖНЫХ ПЛАТ
DC JACK SCHEMATIC DIAGRAM\ПРИНЦИПИАЛЬНАЯ СХЕМА РАЗЪЕМА ПОСТОЯННОГО ТОКА
E.V.F. SCHEMATIC DIAGRAM\ПРИНЦИПИАЛЬНАЯ СХЕМА ВИДОИСКАТЕЛЯ
EXPLODED VIEWS\СБОРОЧНЫЕ ЧЕРТЕЖИ
- **Frame & casing parts section\корпус и шасси**
- **Packing parts & accessories section\упаковочные материалы и принадлежности**

ELECTRICAL REPLACEMENT PARTS LIST\СПИСОК ЭЛЕКТРИЧЕСКИХ ЗАПАСНЫХ ЧАСТЕЙ

Panasonic

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SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: Battery Pack; 4.8 V DC AC Adaptor; 6.0 V DC Consumption; 7.0 W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	VHS-C Cassette Tape (Tape width 12.7 mm)
TAPE SPEED	SP mode: 23.39 mm/s LP mode: 11.7 mm/s (NV-RX7A/EN/EE) Record/Playback Time: SP mode: 60 min. with NV-EC60 LP mode: 120 min. with NV-EC60 (NV-RX7A/EN/EE)
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 0.7 Lux (Low Light Mode)
	LENS: 14:1 Wide-angle Power Zoom Lens with Digital AI Auto Focus, Auto Iris, Auto Focus System, F1.4 (3.9~54.6 mm), Filter Diameter 43 mm
	IMAGE SENSOR: 1/3 inch CCD Image Sensor
	VIEWFINDER: 0.5 inch Colour LCD Viewfinder

ITEM	SPECIFICATION
VIDEO	HEADS: 4 rotary heads, 1 flying erase head
	OUTPUT: PHONO CONNECTOR; 1.0 Vp-p 75Ω terminated
AUDIO	HEAD: 1 Stationary head (Normal-Mono)
	OUTPUT: PHONO CONNECTOR; −6 dB, 47 kΩ loaded/less than 1 kΩ
OPERATING TEMPERATURE	0~40°C
OPERATING HUMIDITY	10~80%
WEIGHT	Approx. 770 g (without Battery Pack)
DIMENSIONS	74 (W) × 139 (H) × 268 (D) mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Cassette Adaptor 1 pc. Shoulder Strap 1 pc. DC Input Cable 1 pc. Battery for Cassette Adaptor Operation 1 pc. AC Cable 1 pc. AV Output Cable 1 pc. Remote Controller 1 pc. Remote Controller Holder 1 pc. Battery for Remote Controller 1 pc. 21 pin Adaptor (NV-RX7EG/EE)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

INTRODUCTION 1

This service manual contains technical informations which will allow service Personnels to understand and service the VHS-C Movie model NV-RX6EN/ENH
This service manual is based on NV-RX6EN/ENH Service manual.
So, plese refer to the descriptions which are shown in NV-RX6EN/ENH serive manual Order No. :VMD9603M116)

Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

Note 1: Adjustment Procedure for Mechanism-Chassis is separate volume from this model.
Please refer to following manunal for detail of adjustment procedure for Mechanism-Chassis.
Order number for adjustment procedure of Mechanism-Chassis : VMD9412M130

Note 2: Adjustment Procedure for Camera-unit is separate volume from this model.
Please refer to following manunal for detail of adjustment procedure for Camera.
Order number for adjustment procedure of Camera : VMD9603M117

Note 3: This Movie camera uses AC Adaptor is VSK0317C.
The Service Manual for AC Adaptor is VSK0317C is separate volume.
Please refer to following manual for detail of VSK0317C.
Order number for AC Adaptor is VSK0317C. : VMD9501M104

NOTE: NV-RX7EN

NV-RX7EN series has two versions depends on countries.
Detail as follws.

Model-No(Version)	NV-RX7EN	NV-RX7ENH
PACKING CASE	VPG8486	VPG8487
AC-CABLE	VJA0664	VJA0733

Comparison Chart of Mechanical Replacement Parts. <A>...Added, <C>...Changed, <D>...Deleted.

Ref. No.	Part No. for . NV-RX6EN/ENH	Part No. for . NV-RX7A/EE/EG EN/ENH	Pcs/ Set	Part Name & Description	Remarks	
655(6)	VJA0644	VJA0644	1	AC CORD	NV-RX7EE/EG/EN	(A)!
655(6)	VJA0733	VJA0733	1	AC CORD	NV-RX7ENH	(A)!
656(6)	VJA0941	VJA0941	1	DC OUTPUT CABLE	NV-RX7EE/EG	(A)!
656(6)	VJA0769	VJA0769	1	DC OUTPUT CABLE	NV-RX7A/EN/ENH	(A)!
660(6)	————	VQT6536	0-1	OPERATION INSTRUCTIONS (GERMAN/ITALIAN)	NV-RX7EG	(A)!
660(6)	————	VQT6535	0-1	OPERATION INSTRUCTIONS (FREANCH/SPANISH/DUTCH SWIDISH)	NV-RX7EG	(A)!
660(6)	————	VQT6484	0-1	OPERATION INSTRUCTIONS (ENGLISH/DANISH)	NV-RX7EG	(A)!
660(6)	————	VQT6630	0-1	OPERATION INSTRUCTIONS (ENGLISH/POLISH/RUSSIAN/CZECH)	NV-RX7EE	(A)!
660(6)	————	VQT6534	0-1	OPERATION INSTRUCTIONS (ENGLISH)	NV-RX7A	(A)!
660(6)	————	VQT6532	0-1	OPERATION INSTRUCTIONS (ENGLISH/CHINESE/ARABIC RUSSIAN)	NV-RX7EN	(A)!
662(6)	VFA0152	VFA0152	1	21-PIN ADAPTOR	NV-RX7EE/EG	(A)
B513(5)	XQN2+BF4	XQN2+BF4FZ	1	SCREW	NV-RX7 Series	(C)
B525(5)	————	XQN2+BQ3FZ	0-1	SCREW	NV-RX7 Series	(A)
B526(5)	————	XQN2+C3FZ	0-1	SCREW	NV-RX7 Series	(A)

Comparison Chart of Electrical Replacement Parts. <A>...Added, <C>...Changed, <D>...Deleted.

Ref. No.	Part No. for . NV-RX6EN/ENH	Part No. for . NV-RX7A/EE/EG EN/ENH	Pcs/ Set	Part Name & Description	Remarks	
	VEP28229K	————	1-0	EVF. C. B. A	NV-RX7 Series	(D)
	————	VEP28227A	0-1	EVF. (A) C. B. A	" "	(A)
	————	VEP28228A	0-1	EVF. (B) C. B. A	" "	(A)
	————	VEP28230A	0-1	EVF. (C) C. B. A	" "	(A)

1. COMPARISON CHART

1. Compariosn Chart for NV-RX6EN/ENH & NV-RX7A/EE/EG/EN/ENH

This chart described different part from the original model to the new model as shown below.

Original Model : NV-RX6EN/ENH(Order Number for Service Manual :VMD9603M116)
New Model : NV-RX7A/EE/EG/EN/ENH

Note: IMPORTANT NOTICE
Components identified with mark <!> have the special characterristics for safety.
When replacing any these components, use only the same type.

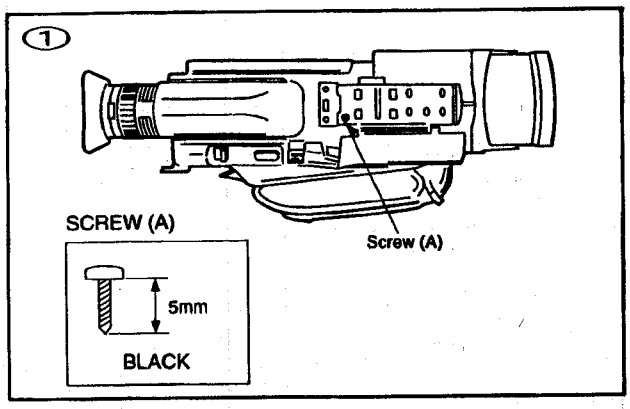
Comparison Chart of Mechanical Replacement Parts. <A>...Added, <C>...Changed, <D>...Deleted.

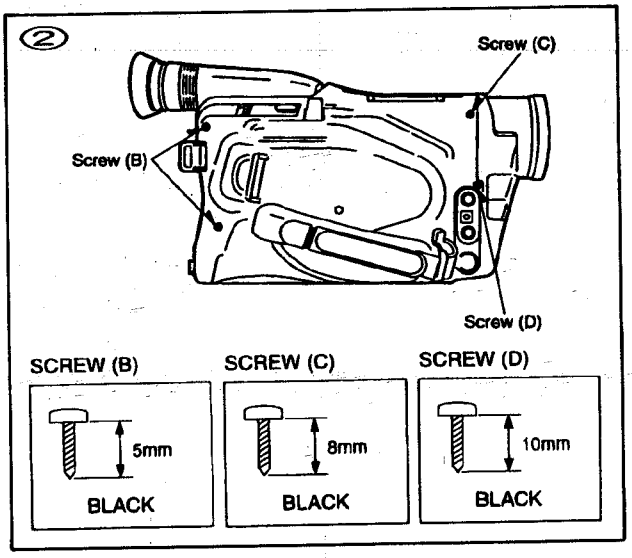
Ref. No.	Part No. for . NV-RX6EN/ENH	Part No. for . NV-RX7A/EE/EG EN/ENH	Pcs/ Set	Part Name & Description	Remarks
41(1)	————	VEG1174	0-1	CYLINDER U	NV-RX7EG ONLY (A)
501(5)	VKM4416	VKM4416	1	SIDE CASE (R)	NV-RX7EG ONLY (C)
501(5)	VKM4416	VKM4462	1	SIDE CASE (R)	NV-RX7A/EE/EN (C)
504(5)	VYK7016	VYK7041	1	CASSETTE COVER (1) U	NV-RX7A/EE/EN (C)
504(5)	VYK7016	VYK7145	1	CASSETTE COVER (1) U	NV-RX7EG ONLY (C)
530(5)	VYK7019	VYK7133	1	FRONT CASE (2) U	NV-RX7A/EE/EN (C)
530(5)	VYK7019	VYK7133	1	FRONT CASE (2) U	NV-RX7EG ONLY (C)
535(5)	VGQ4136	VGQ4173	1	EVF LOCK PICE	NV-RX7 Series (C)
538(5)	VMG0631	VMG0996	1	EYE CAP	" " (C)
539(5)	VKM4315	VKM4415	1	EVF MOUNT PANEL	NV-RX7A/EE/EN (C)
539(5)	VKM4315	VKM4451	1	EVF MOUNT PANEL	NV-RX7EG ONLY (C)
542(5)	VKW2178	————	1-0	PORTECTION PANEL	NV-RX7 Series (D)
543(5)	M01LGM07WB02	————	1-0	CRT	" " (D)!
544(5)	VYK6858	VYK7137	1	TOP PANEL (1) U	NV-RX7A/EE/EN (C)
544(5)	VYK6861	VYK6857	1	TOP PANEL (1) U	NV-RX7EG ONLY (C)
545(5)	VMS5382	VMS6103	1	SHAFT	NV-RX7 Series (C)
546(5)	VKF2525	VKF2590	1	VTR DOOR	NV-RX7A/EE/EN (C)
546(5)	VKF2525	VKF2525	1	VTR DOOR	NV-RX7EG (C)
562(5)	VKM4350	VKM4412	1	REAR CASE	NV-RX7A/EE/EN (C)
562(5)	VKM4350	VKM4450	1	REAR CASE	NV-RX7EG ONLY (C)
565(5)	VGQ4123	VGQ4201	1	EJECT C.B.A HOLDER	NV-RX7 Series (C)
576(5)	VKM4308	VKM4413	1	EVF CASE(UPPER)	NV-RX7A/EE/EN (C)
576(5)	VKM4308	VKM4443	1	EVF CASE(UPPER)	NV-RX7EG ONLY (C)
577(5)	VKM4309	VKM4414	1	EVF CASE(UPPER)	NV-RX7A/EE/EN (C)
577(5)	VKM4309	VKM4444	1	EVF CASE(UPPER)	NV-RX7EG ONLY (C)
612(5)	VYK6780	VYQ1315	1	EYE CAP HOLDER	NV-RX7 Series (C)
613(5)	ELY05V584A	————	1-0	DY	" " (D)!
620(5)	VGU7247	VGU7173	1	VTR OPERATION BUTTON	NV-RX7EG ONLY (C)
626(5)	————	VWJ1099	0-1	EVF FLEXIBLE CARD	NV-RX7 Series (A)
627(5)	————	VGQ4175	0-1	CASE HOLDER	NV-RX7A/EE/EN (A)
627(5)	————	VGQ4188	0-1	CASE HOLDER	NV-RX7EG ONLY (A)
628(5)	————	VJF1276	0-1	LCD HOLDER PICE	NV-RX7 Series (A)
629(5)	————	VGQ4177	0-1	B.L HOLDER	" " (A)
630(5)	————	LCX005BKB	0-1	LCD	" " (A)
631(5)	————	VSC4459	0-1	B.L SHIELDER CASE(FRONT)	" " (A)
632(5)	————	VSC4460	0-1	B.L SHIELDER CASE(REAR)	" " (A)
633(5)	————	VGQ4241	0-1	EVF LOCK BARRIER	" " (A)
653(6)	————	VPG8488	0-1	PACKING	NV-RX7A ONLY (A)
653(6)	————	VPG8583	0-1	PACKING	NV-RX7EE ONLY (A)
653(6)	————	VPG8489	0-1	PACKING	NV-RX7EG ONLY (A)
653(6)	————	VPG8486	0-1	PACKING	NV-RX7EN ONLY (A)
653(6)	————	VPG8487	0-1	PACKING	NV-RX7ENH ONLY (A)

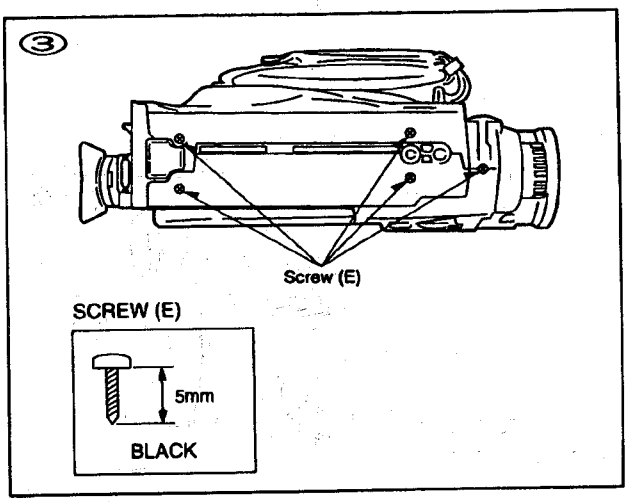
3. DISASSEMBLY PROCEDURES

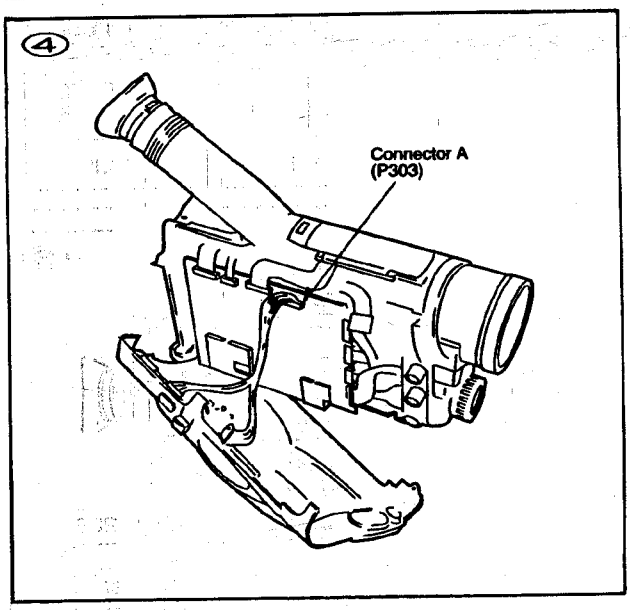
Flow-Chart for Disassembly Procedure

NBR	ITEM/PART	Fig.	Removal (SCREW)
【1】	Side Case (L).	①	1-SCREW (A)
		②	4-SCREWs(B/C/D)
		③	4-SCREWs(E)
		④	Slightly open the side case (L)
			Disconnect(Connector A).
【2】	Cassette Cover	⑤	2-SCREWs(F)
【3】	Side Case (R).	⑥	1-SCREW (G)
		⑦	Disconnect(Connector B)
		⑧	1-SCREW (H)
		⑨	Unlock---3 Locking Tabs
			Remove the Side Case (R)
【4】	EVF-Unit	⑩	Unlock---2 Locking Tabs
			Disconnect(Connector C)
【5】	Front Case	⑪	1-SCREW(I)
			Unlock---2 Locking Tabs
			Disconnect(Connector D)
【6】	Main C.B.A	⑫	2-SCREWs(J/K)
			Unsolder the Shield Case
			Disconnect(Connector E/F/G/H/I
			Connector J)
		⑬	Disconnect(Connector K/L)
【7】	Lens-Unit	⑭	2-SCREWs(L)
【8】	Front C.B.A &	⑮	Remove the Focus Dial/Nut
	Mic Unit		Remove the Spacer/Spacer Knob
			Remove the knob Spacer
		⑯	Disconnect (Connector M)
			Unlock ---Locking Tabs
			Remove the AV-Jack C.B.A
		⑰	4-SCREWs(M)
			Remove the Front C.B.A
			Remove the Mic Unit
【9】	E.V.F C.B.A	⑱	1-Screw(N)
	(E.V.F A/B/C)	⑲	1. Push the locking portion then
			Pull the Eye Cap Holder.
			2. Push the locking portion then
			Pull the Case Holder.
		⑳	2-SCREWs(O)
		21	Disconnect (Connector N/O/P)
			1-SCREWs(P)
		22	1-SCREW (Q)
			Disconnect (Connector Q/R)
		23	2-SCREW(Q)









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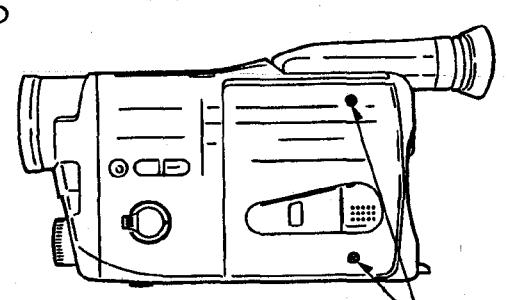
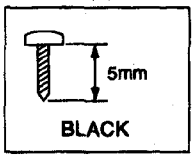


SCREW (F)



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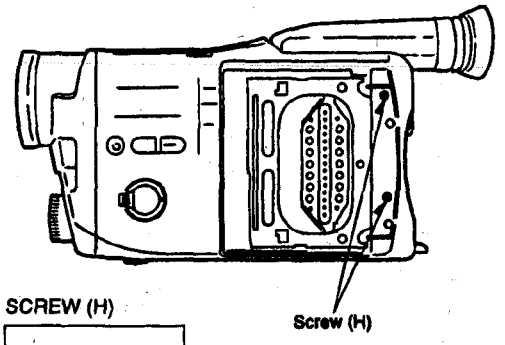
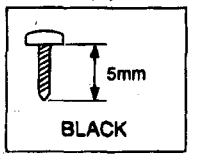


SCREW (H)



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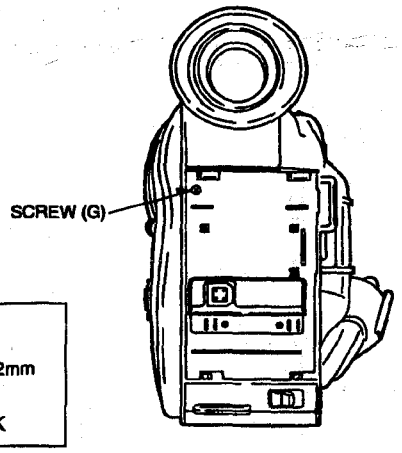
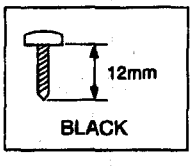


SCREW (G)



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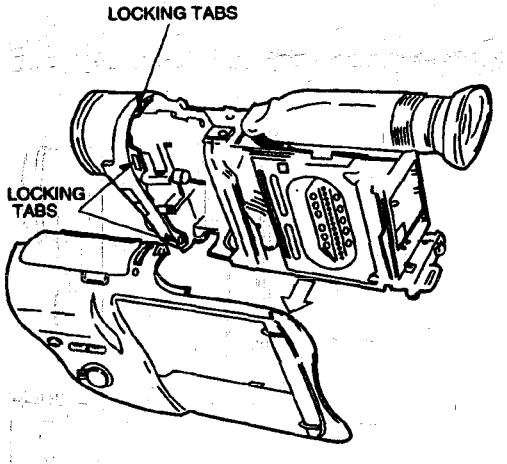

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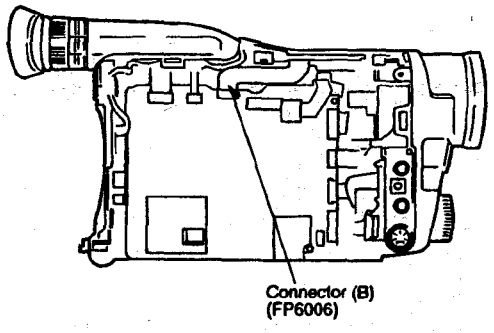

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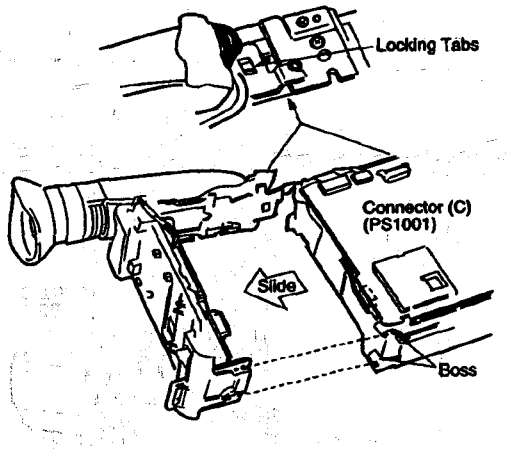

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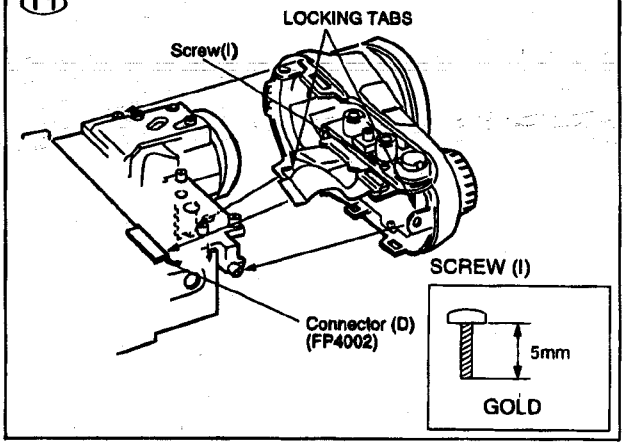
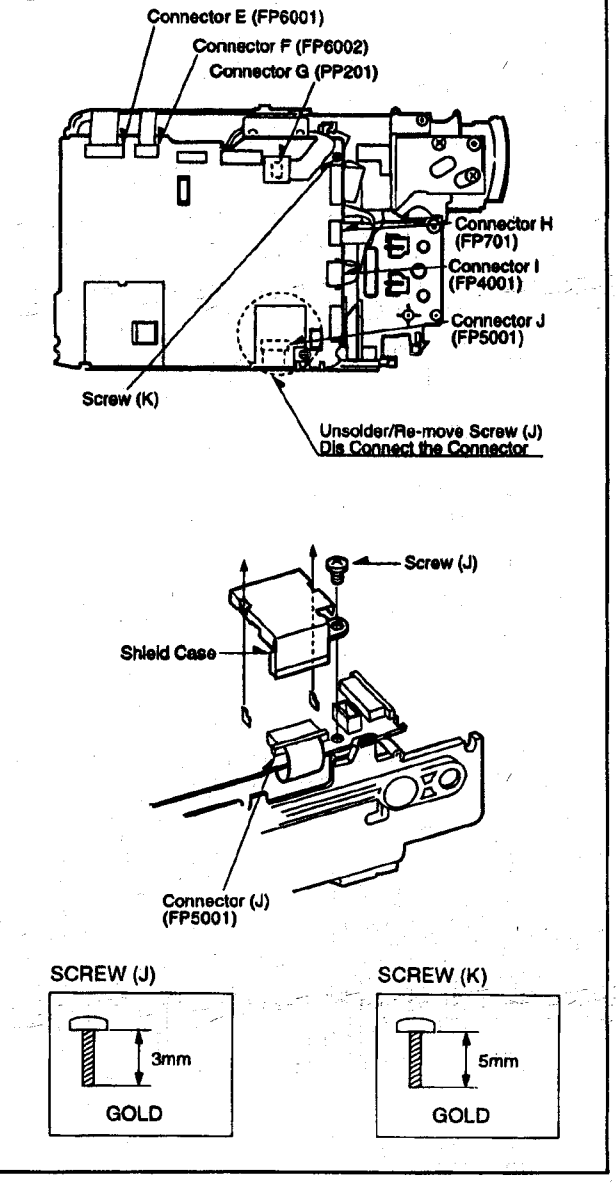
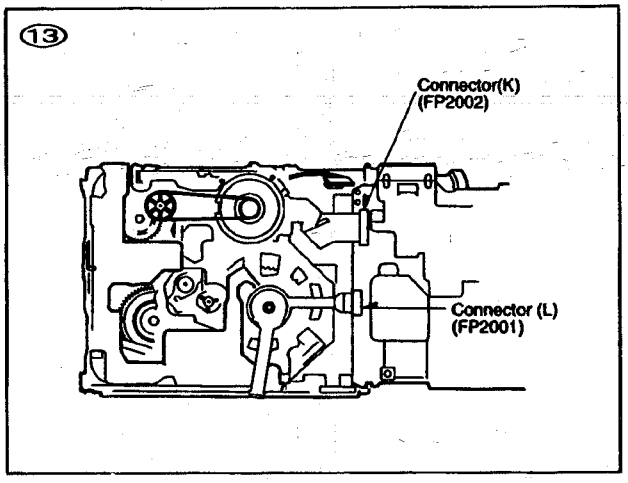

LOCKING TABS
Screw(I)
SCREW (I)
Connector (D)
(FP4002)
5mm
GOLD

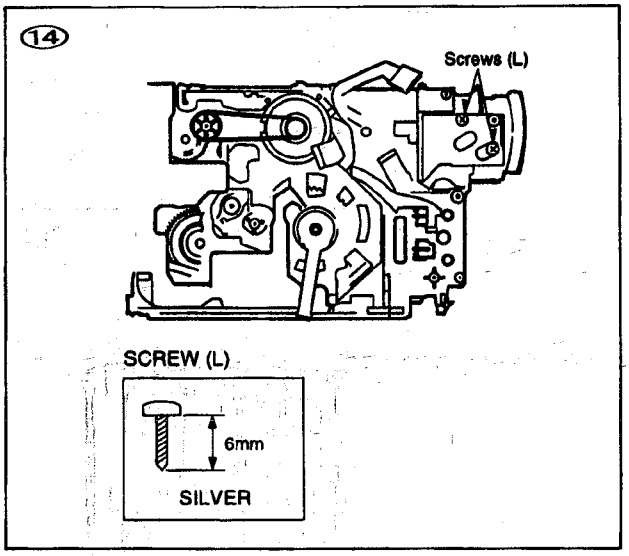
⑫


Connector E (FP6001)
Connector F (FP6002)
Connector G (PP201)
Connector H
(FP701)
Connector I
(FP4001)
Connector J
(FP5001)
Screw (K)
Unsolder/Re-move Screw (J)
Dis Connect the Connector
Screw (J)
Shield Case
Connector (J)
(FP5001)
SCREW (J)
3mm
GOLD
SCREW (K)
5mm
GOLD

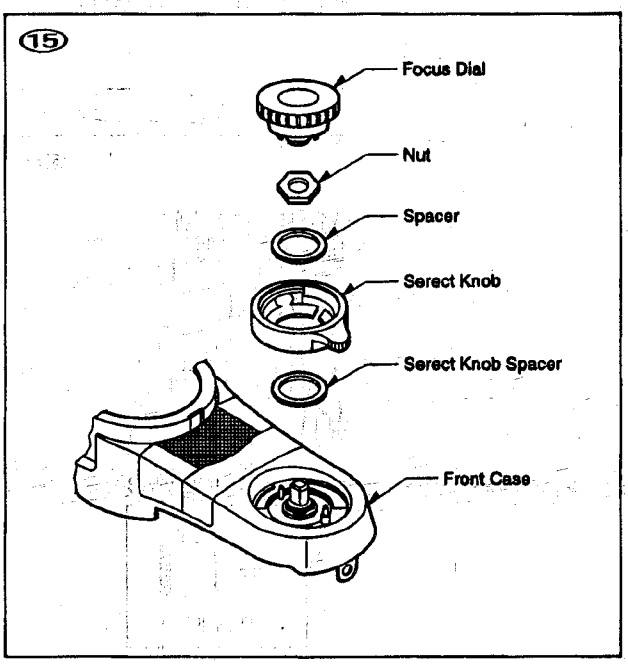
⑬


Connector(K)
(FP2002)
Connector (L)
(FP2001)

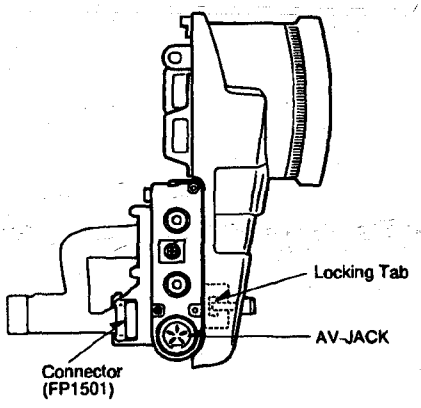
⑭


Screws (L)
SCREW (L)
6mm
SILVER

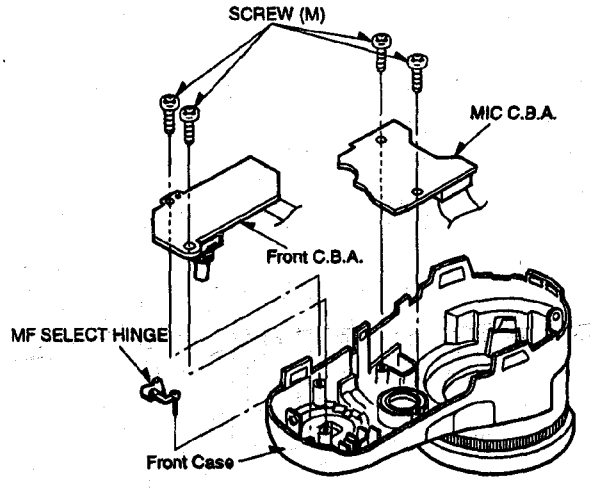
⑮


Focus Dial
Nut
Spacer
Serect Knob
Serect Knob Spacer
Front Case

⑯



⑰



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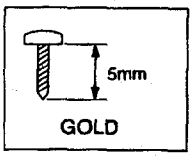

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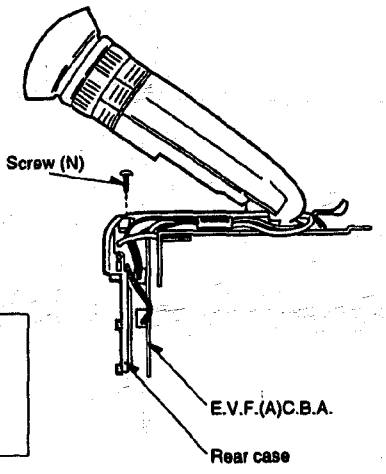

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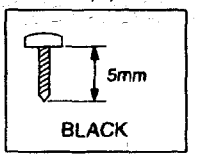

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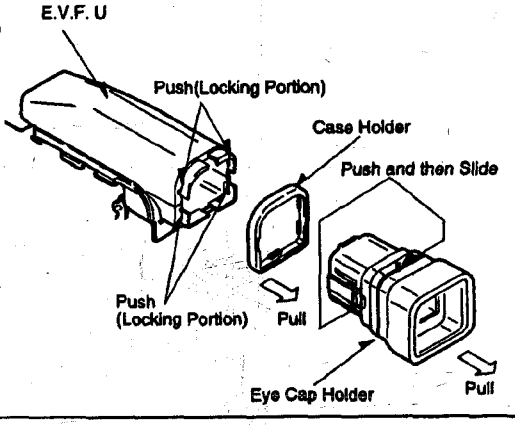

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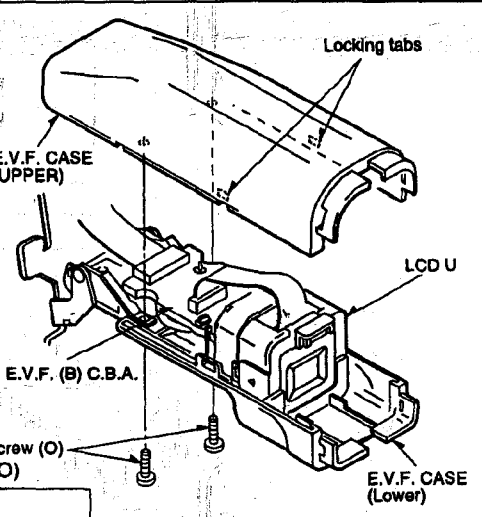

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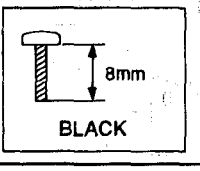
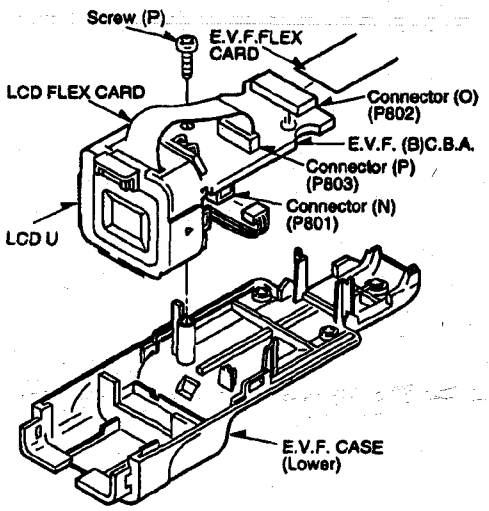


(21)



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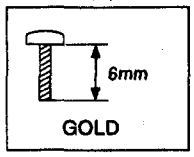

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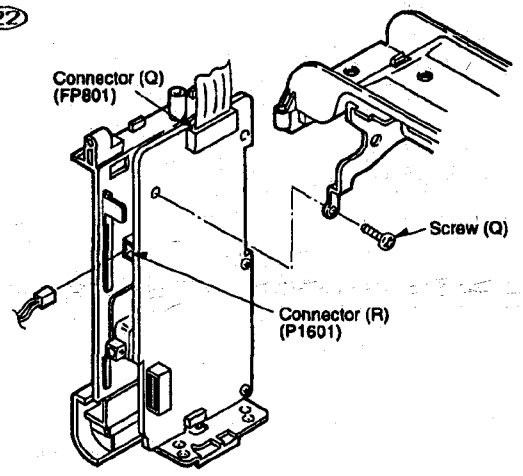
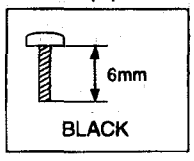


SCREW (Q)



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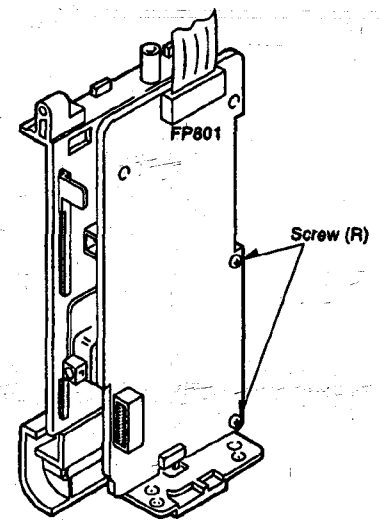

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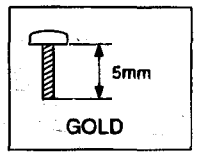


4. ELECTRICAL ADJUSTMENT PROCEDURES

TEST EQUIPMENT AND TOOLS

The following equipment are required for adjustment of the VTR & E.V.F section of VHS-Movie.

	Item & Spec/Range		Item & Spec/Range
1	VFK0668	4	Video Sweep Generator Frequency Range: 0.0 ~50MHz Frequency Range: 0.0 ~50MHz
2	Dual Trace Oscilloscop Voltage Range : 0.01~50V Frequency Range: 0.0 ~50MHz	5	Colour Monitor TV
3	Probe for Oscilloscop Voltage Range : 0.01~50V (10:1 or 1:1Probe)	6	Plastic Tip Driver
		7	VHS-C Movie Alighment Tape(VFM8081HQPP)
		8	VHS-C Blank Tape
		9	Colour Bar Chart/Gray Scale Chart/Black & White Chart

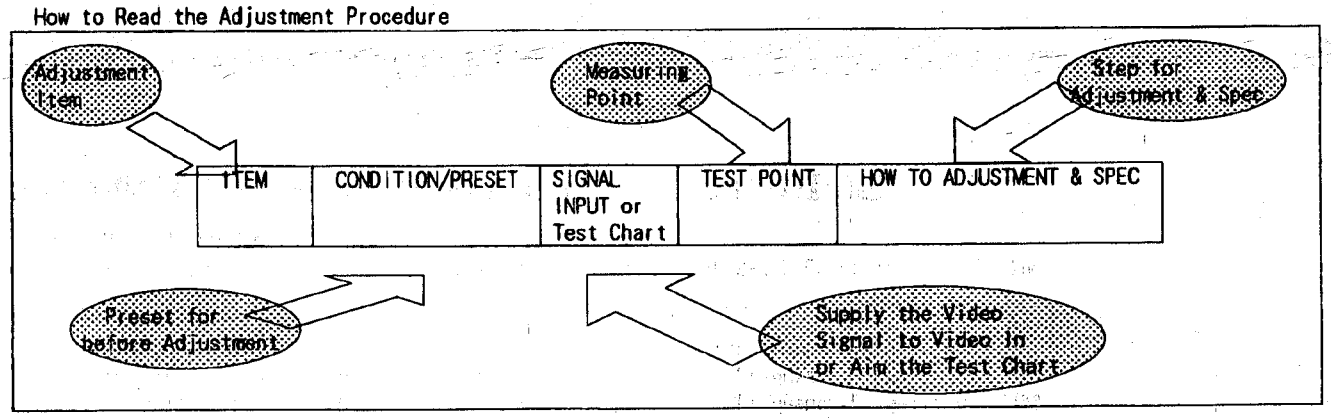
PREPARATION:

(A). Remove the Casing panels.

(B). Connect the Viewfinder to unit with Extension Cable VFK0668(24Pin). ⇨Please Refer to Fig.E1

(C). The camera unit must be completely aligned befor viewfinder adjustment.

How to Read the Adjustment Procedure



Preparation for Electrical Adjustment

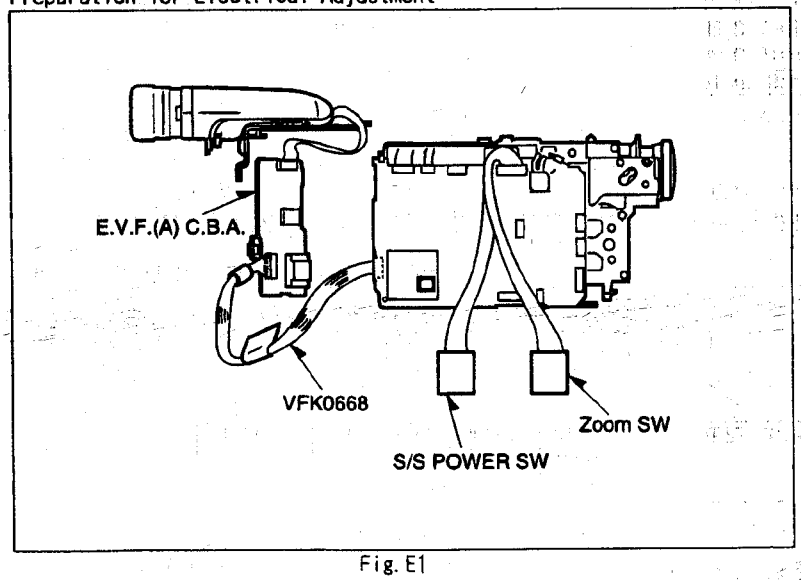


Fig. E1

Note: Triggering the Oscilloscope
To trigger the Oscilloscope, following test point is used.

H. Rate: Video Output
V. Rate: PP3001-10(Head Amp Switching Signal)

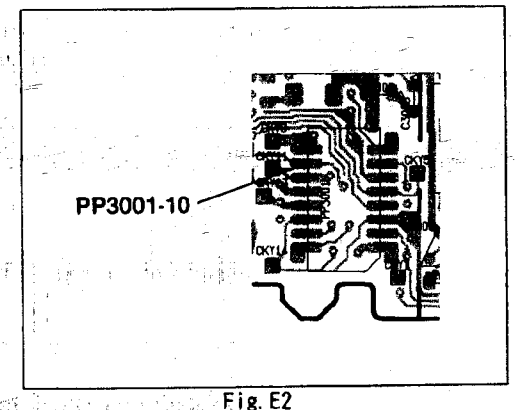


Fig. E2

4-1. ELECTRICAL ADJUSTMENT FOR COLOUR E.V.F. SECTION

Note: The camera unit must be completely aligned befor viewfinder adjustment.

ITEM	CONDITION/PRESET	SIGNAL INPUT or Test Chart	TEST POINT	HOW TO ADJUSTMENT & SPEC
1. POWER VOLTAGE	1. Connect the Digital Volt Meter to CL804.	————	CL804.	1. Turn VR809 so that the voltage at CL804 become 12.0 ±0.03V.
2. PICTURE CETREING	1. Aim the Camera at the Colour bar Chart.	Colour Bar Chart	CL807 (Or IC802-12)	1. Turn VR808 until t1 =t2±0.1usec. (Please refer to Fig. E3.)
3. PEDESTAL LEVEL	1. Aim the Camera at the Gray-Scale Chart. 2. Connect the oscilloscope to CL803.	Gray-Scale Chart	CL803.	1. Turn the VR810 so that the "A" level becomes 2.4±0.1V. (Please refer to Fig. E4).
4. COLOUR G LEVEL	1. Aim the Camera at the Gray-Scale Chart. 2 Connect the oscilloscope to CL803.	Gray-Scale Chart	CL803.	1. Turn the VR802 so that the "A" level becomes 1.9±0.1V. (Please refer to Fig. E5).
5. TINT	1. Aim the Camera at the Colour-bar Chart. 2. Connect the oscilloscope to CL801/CL802	Colour-bar Chart	CL801. (IC802-43)	1. Turn the VR804/VR803 so that the R/B level become Fig. E6. (Please refer to Fig. E6). Also please check Viewfinder, Picture become natural colour.
6. WHITE BALANCE	1. Aim the Camera at the Gray-Scale Chart.	Gray-Scale Chart	E.V.F	1. Turn the VR805 & VR806 so that the pictur on E.V.F become black and white.

4-2. Fig For ELECTRICAL ADJUSTMENT OF COLOUR E.V.F. SECTION

PICTURE CENTREING ADJUSTMENT

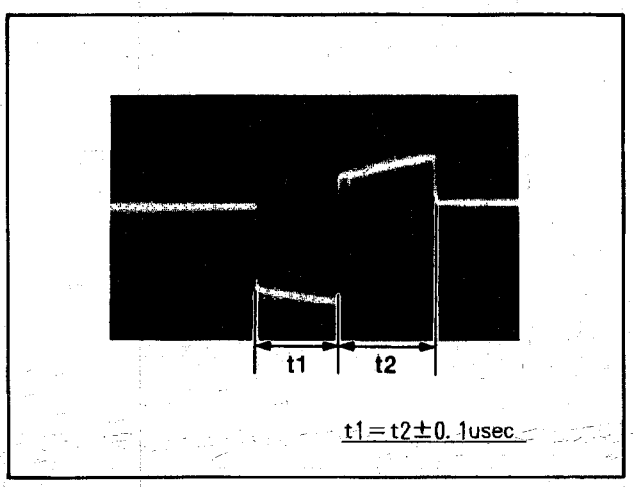


Fig. E3

PEDESTAL LEVEL ADJUSTMENT

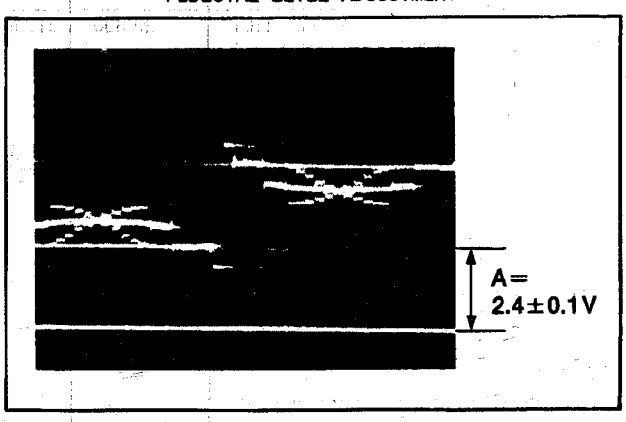


Fig. E4

COLOUR G LEVEL ADJUSTMENT

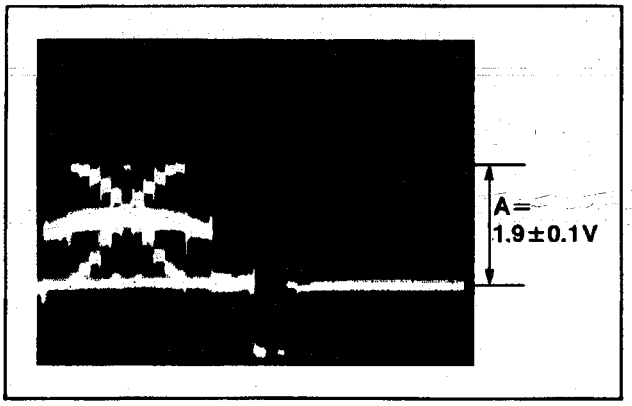


Fig. E5

TINT ADJSUTMENT

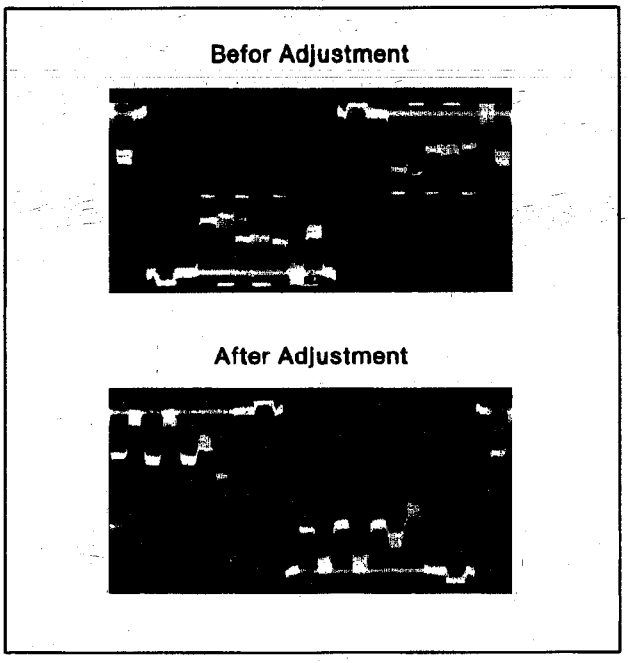
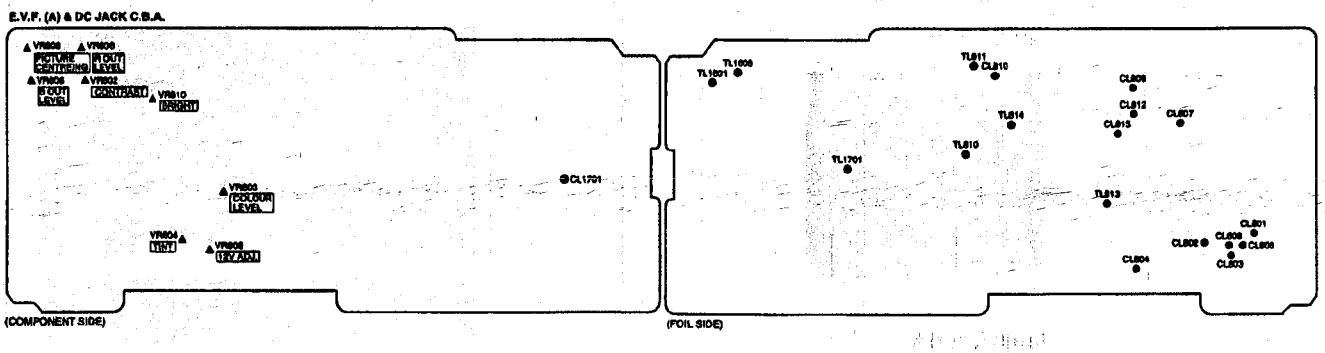
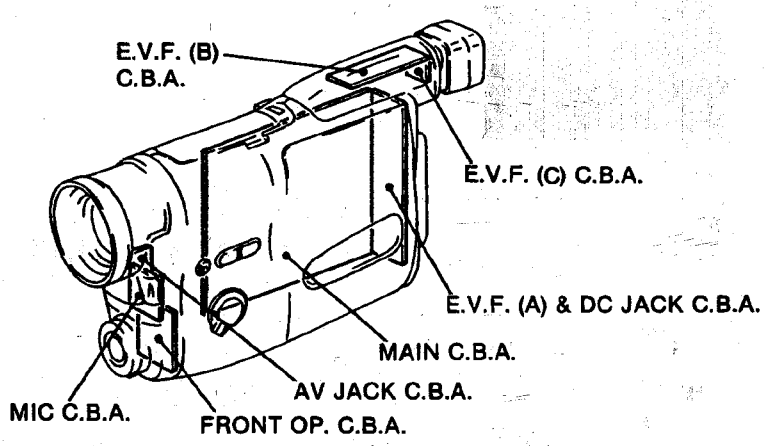


Fig. E6

LOCATION OF TEST POINTS & CONTROLS

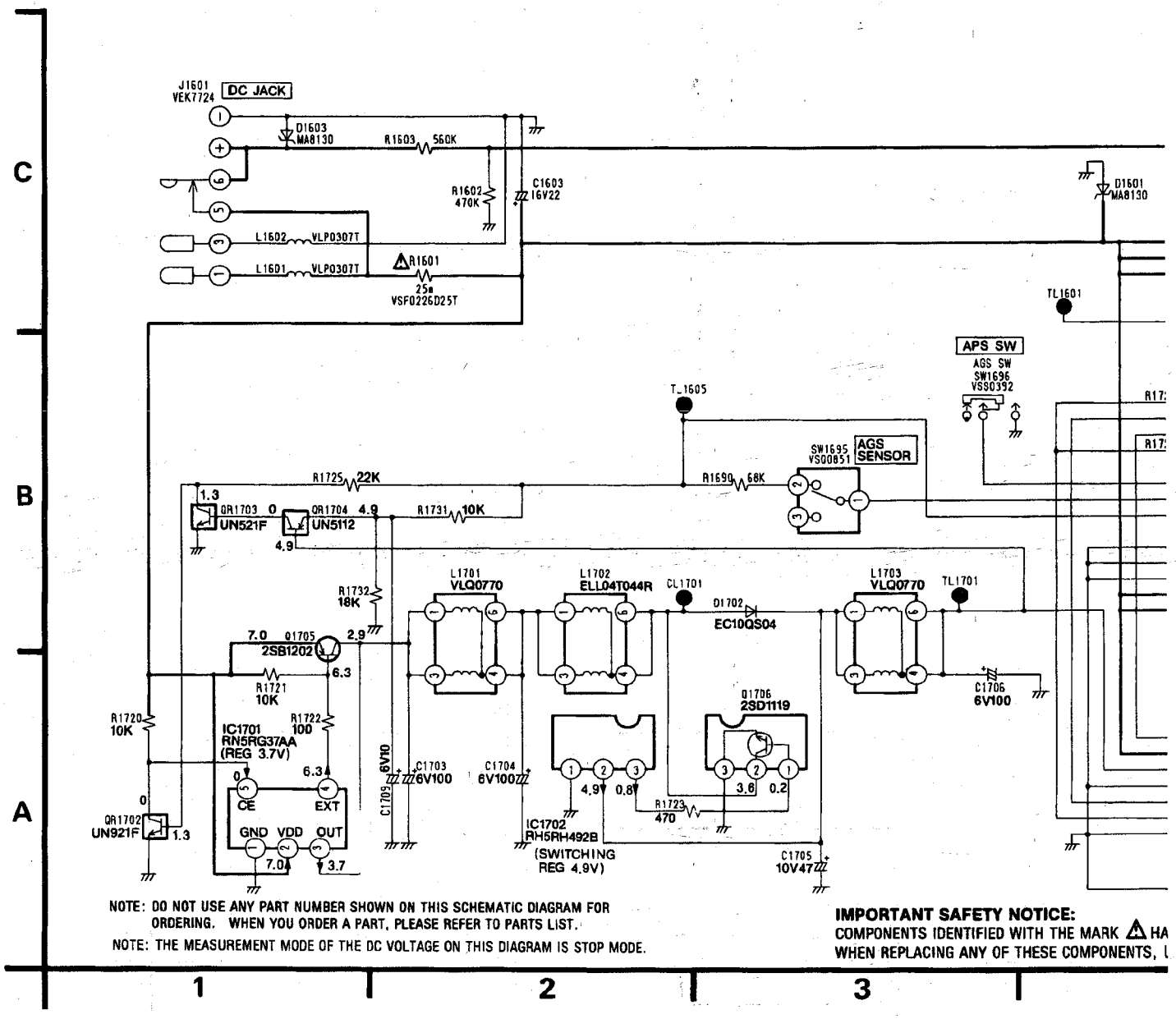


5. CIRCUIT BOARD LAYOUT



Note: Adjutment for CAMERA/VTR Section requied EVR fixture.
So, adjustment procedure described on Service manual **VMD9603M117**

6. DC JACK SCHEMATIC DIAGRAM



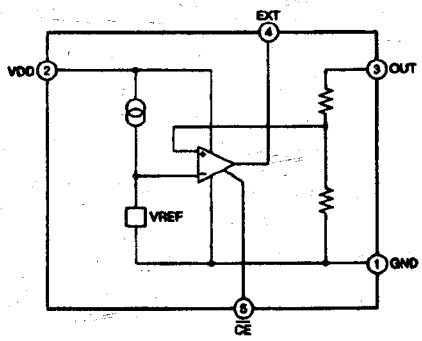
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

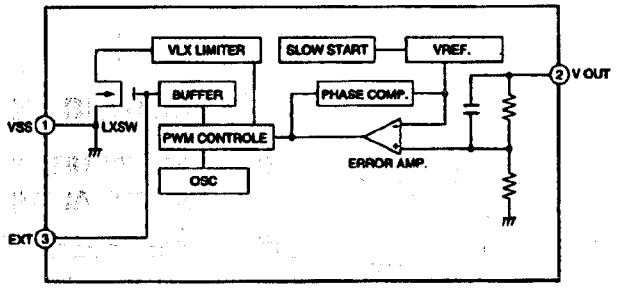
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HA
WHEN REPLACING ANY OF THESE COMPONENTS, U

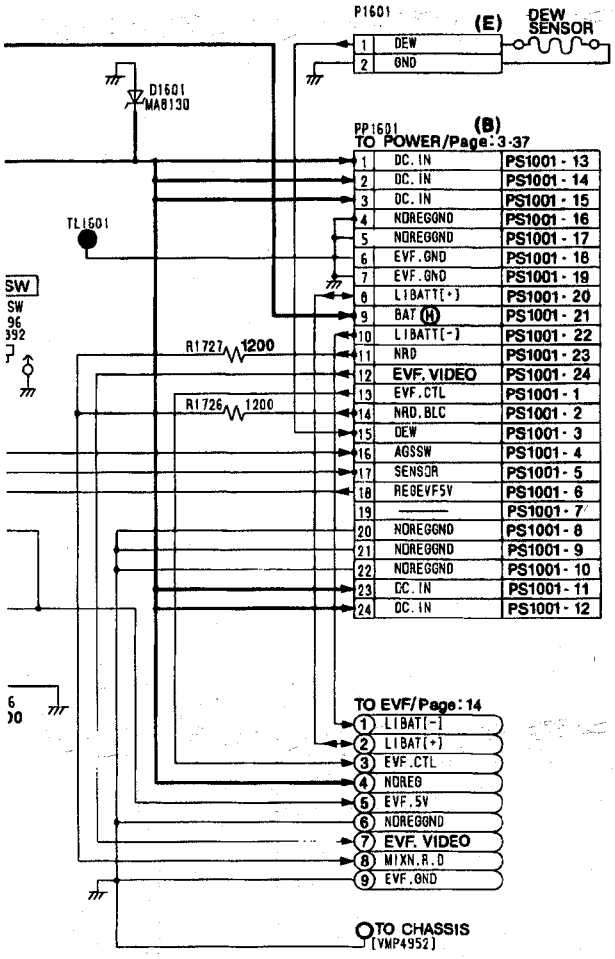
IC BLOCK

IC1701 (RN5RG37AA)
(LOCATION: A-1)



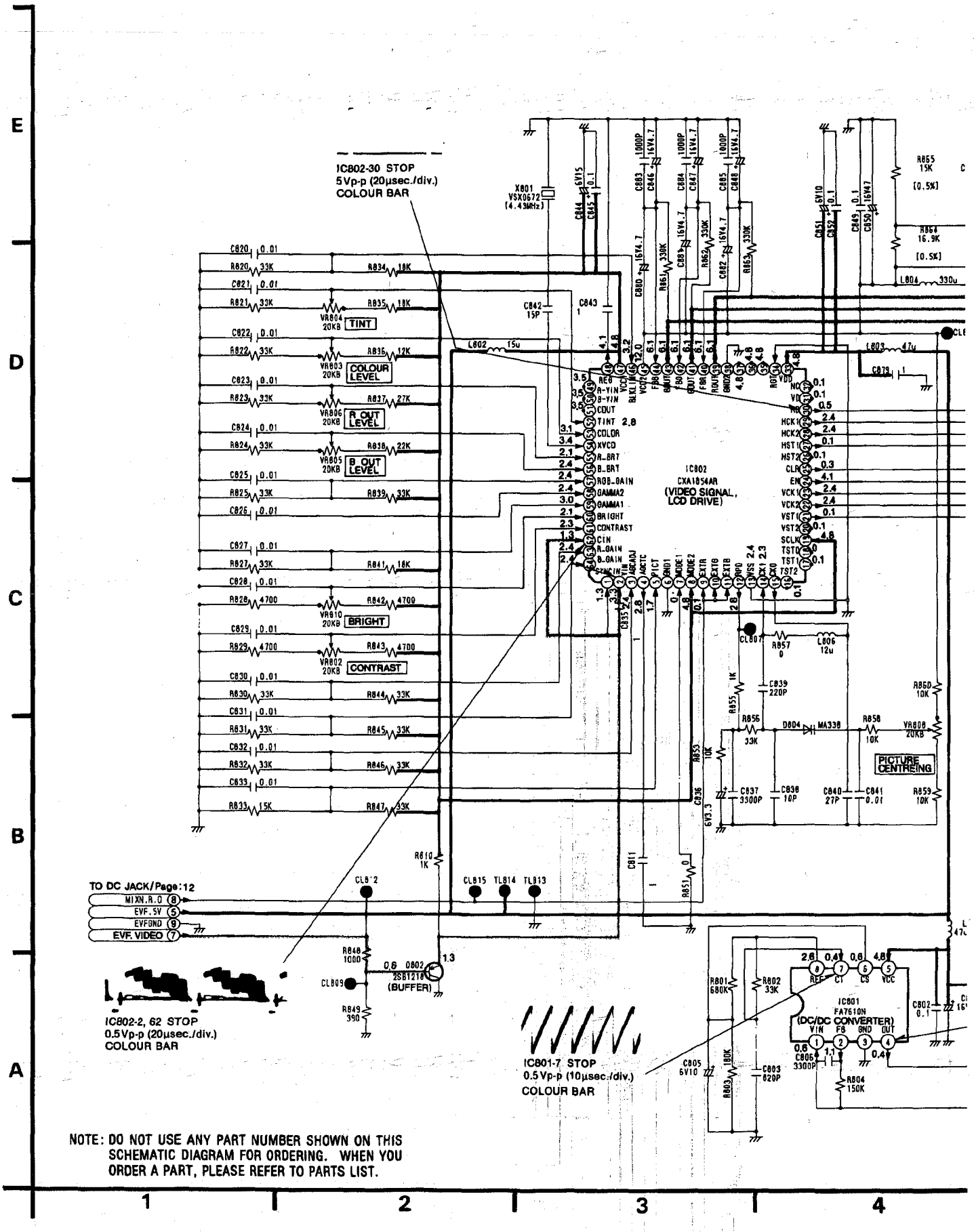
IC1702 (RH5RH492B)
(LOCATION: A-2)



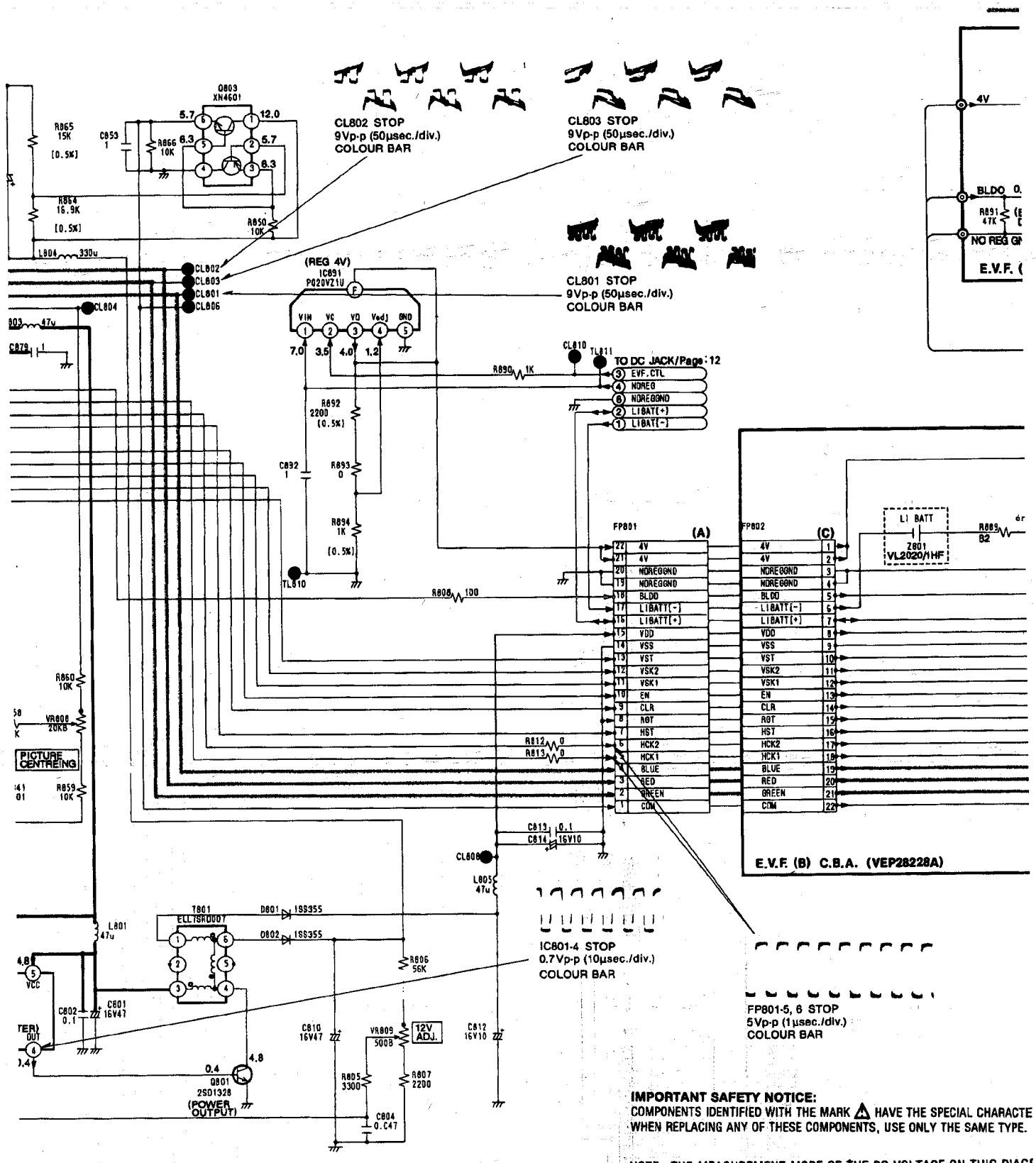


' NOTICE:
) WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
IF THESE COMPONENTS, USE ONLY THE SAME TYPE.

7. E.V.F. SCHEMATIC DIAGRAM



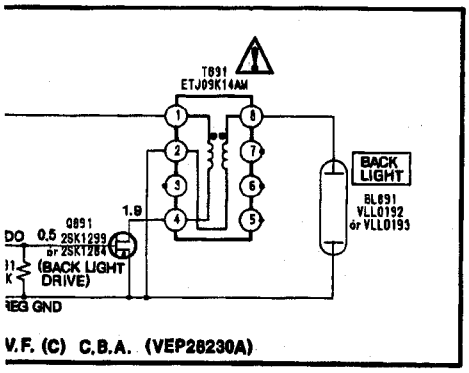
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

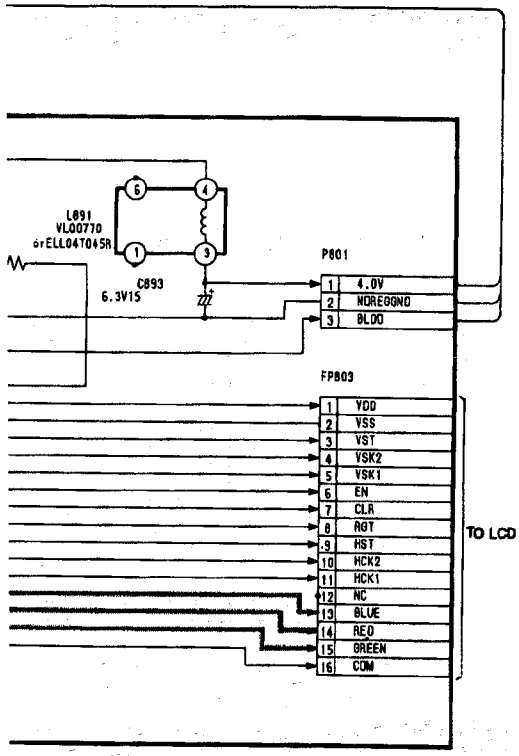


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTE
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGF
WITH AIM THE CAMERA AT THE COLOUR CHART.

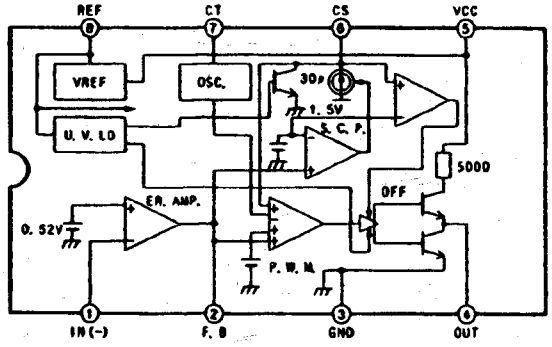
MAIN SIGNAL PATH



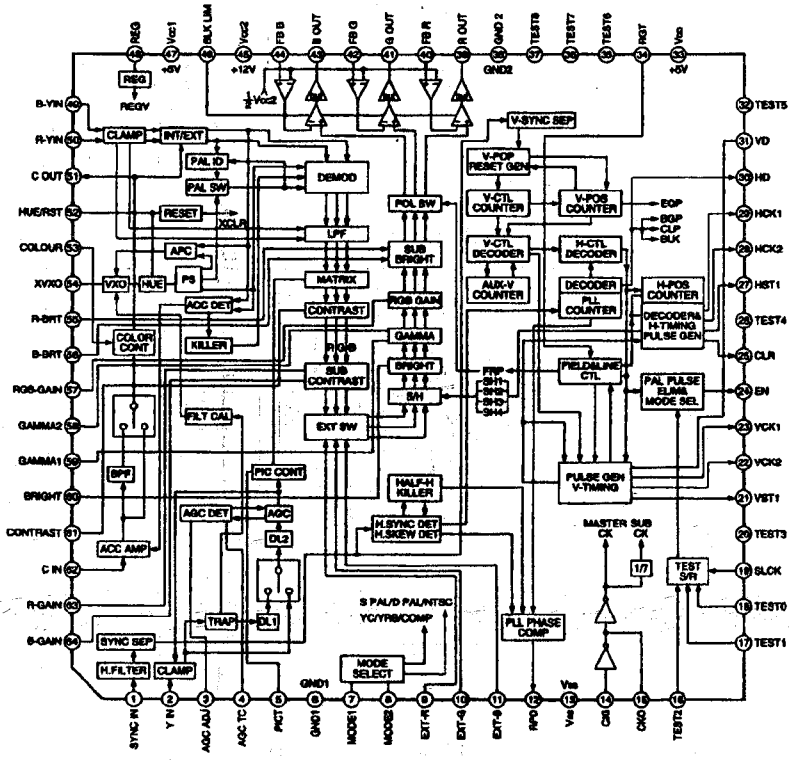


IC BLOCK

IC801 (FA7610N)
(LOCATION: A-4)



IC802 (CXA1854AR)
(LOCATION: C-3)

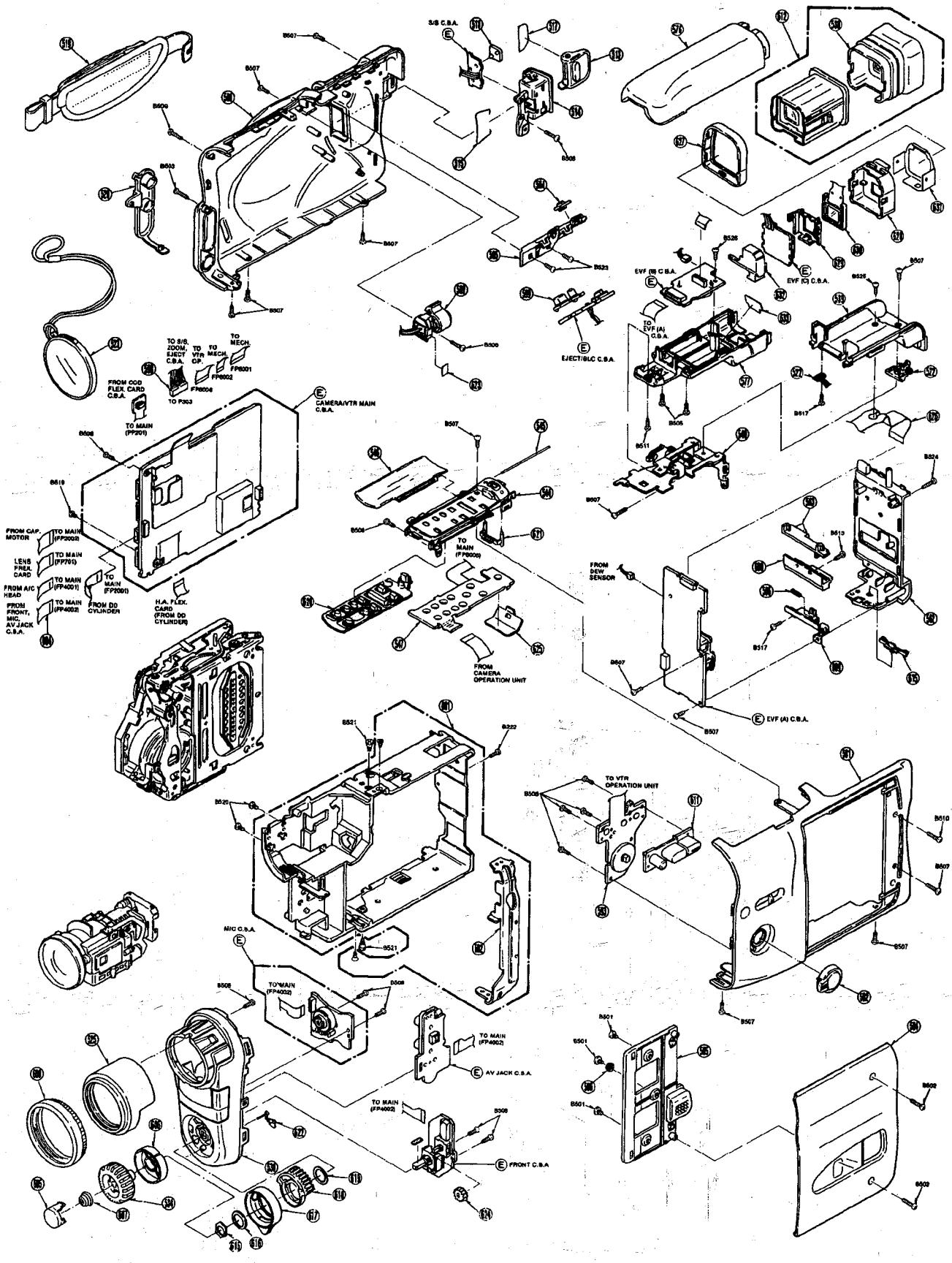


ICTERISTICS FOR SAFETY.
'PE.

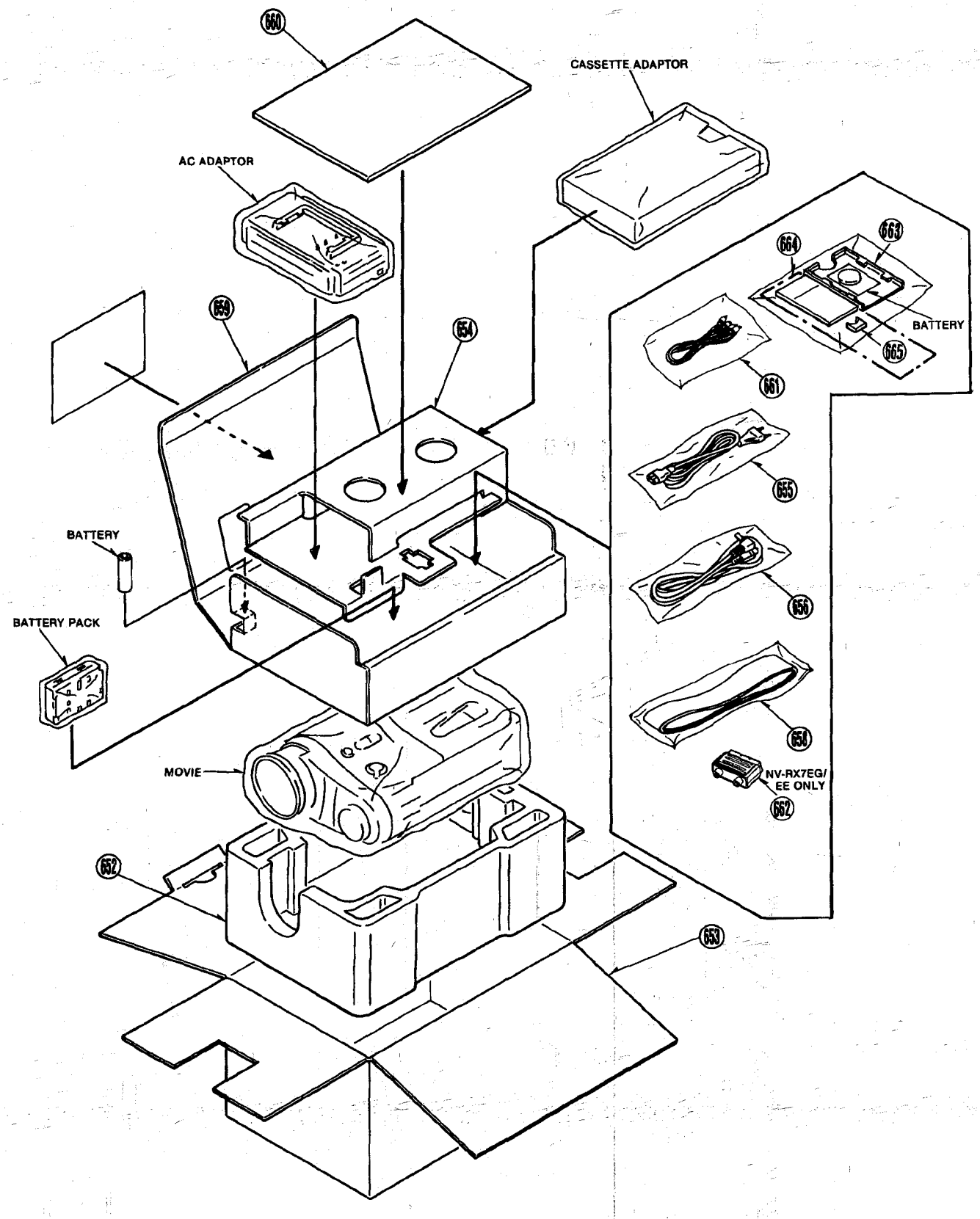
IAGRAM IS STOP MODE

9. EXPLODED VIEWS

❺ FRAME & CASING PARTS SECTION



❻ PACKING PARTS & ACCESSORIES SECTION



Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R861-63		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	3	
R864		ERJ3RHD1692	M.RESISTOR CH 1/16W 16.9K	1	
R865		ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R866		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R890		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R892		VRE0071E222	M.RESISTOR 2.2K	1	
R893		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R894		VRE0071E102	M.RESISTOR 1K	1	
R1601		VSF0226D25T	IC PROTECTOR	1	<1>
R1602		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R1603		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R1690		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R1720,21		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R1722		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1723		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R1725		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R1726,27		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R1731		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1732		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
SW1695		VSQ0851	SWITCH	1	
SW1696		VSS0392	SWITCH	1	
T801		ELL7SRD007	TRANSFORMER	1	
VR802-06		EVM7JSX30B24	V.RESISTOR 20K	5	
VR808		EVM7JSX30B24	V.RESISTOR 20K	1	
VR809		EVM7JSX30B52	V.RESISTOR 500	1	
VR810		EVM7JSX30B24	V.RESISTOR 20K	1	
X801		VSX0672	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC4457	EVF SHIELD COVER (TOP)	1	
		VSC4458	EVF SHIELD COVER (BOTTOM)	1	
		VSC4438	DC JACK SHIELD COVER(TOP)	1	
		VSC4439	DC JACK SHIELD COVER(BOTT.)	1	
	■	VEP28228A	EVF (B) C.B.A.		(RTL)
C893		VCE20JAU1562	E.CAPACITOR 6.3V 15M	1	
FP802		VJS3319B022	CONNECTOR (FEMALE) 22P	1	
FP803		VJS3452C016	CONNECTOR (FEMALE) 16P	1	
L891		VLQ0770	COIL	1	
PP801		VJP3172B003	CONNECTOR (MALE) 3P	1	
R889		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
Z801		VL2020/1HF	LITHIUM BATTERY	1	
	■	VEP28230A	EVF (C) C.B.A.		(RTL)
BL891		VLL0192	COIL	1	
Q891		2SK1299-3S	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R891		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
T891		ETJ09K14AM	TRANSFORMER	1	
			MISCELLANEOUS		
		VGQ4177	BACK LIGHT HOLDER	1	
		VEE9796	WIRE CABLE	1	

10. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
2. *IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.*
3. Unless otherwise specified, All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf), P=uuF.
4. The P.C.Board units marked width'■'show below the main assembled parts.
5. The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP28227A	EVF (A) C.B.A.	1	(RTL)
		VEP28228A	EVF (B) C.B.A.	1	(RTL)
		VEP28230A	EVF (C) C.B.A.	1	(RTL)
	■	VEP28227A	EVF (A) C.B.A.		(RTL)
C801		ECEV1CA470F	E.CAPACITOR CH 16V 47U	1	
C802		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C803		ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
C804		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	1	
C805		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C806		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C810		ECEV1CA470F	E.CAPACITOR CH 16V 47U	1	
C811		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C812		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C813		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C814		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C820-25		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	6	
C827-33		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	7	
C835		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C836		ECST0JY335Z	T.CAPACITOR 6.3V 3.3U	1	
C837		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C838		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C839		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C840		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C841		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C842		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C843		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C844		ECST0JX156Z	T.CAPACITOR CH 6.3V 15U	1	
C845		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C846-48		ECST1CY475Z	T.CAPACITOR 16V 4.7U	3	
C849		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C850		ECEV1CA470F	E.CAPACITOR CH 16V 47U	1	
C851		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C852		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C853		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C879		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C880-82		ECST1CY475Z	T.CAPACITOR 16V 4.7U	3	
C883-85		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	3	
C892		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1603		ECEV1CA220	E.CAPACITOR CH 16V 22U	1	
C1703,04		ECEV0JA101	E.CAPACITOR CH 6.3V 100U	2	
C1705		ECST1AD476Z	T.CAPACITOR CH 10V 47U	1	
C1706		ECEV0JA101	E.CAPACITOR CH 6.3V 100U	1	
C1709		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
D801,02		1SS355	DIODE	2	
D804		MA338	DIODE	1	
D1601		MA8130-M	DIODE	1	
D1603		MA8130-M	DIODE	1	
D1702		EC10QS04	DIODE	1	
FP801		VJS3319B022	CONNECTOR (FEMALE) 22P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC801		FA7610N	IC	1	
IC802		CXA1854AR	IC	1	
IC891		PQ20VZ1U	IC	1	
IC1701		RN5RG37AA	IC	1	
IC1702		RH5RH492B	IC	1	
J1601		VEK7724	RFU	1	
L801		VLQ0319K470	COIL 47UH	1	
L802		VLQ0319F150	COIL 15UH	1	
L803		VLQ0163J470	COIL 47UH	1	
L804		VLQ0319K331	COIL 330UH	1	
L805		VLQ0163J470	COIL 47UH	1	
L806		VLQ0163J120	COIL 12UH	1	
L1601,02		VLP0307	COIL	2	
L1701		VLQ0770	COIL	1	
L1702		ELL04T044R	COIL	1	
L1703		VLQ0770	COIL	1	
P1601		VJP3125D002	CONNECTOR (MALE) 2P	1	
PP1601		VJP3126B024	CONNECTOR (MALE) 24P	1	
Q801		2SD1328-S	TRANSISTOR	1	
Q802		2SB1218	TRANSISTOR	1	
Q803		XN4601	TRANSISTOR-TRANSISTOR	1	
Q1705		2SB1202-S	TRANSISTOR	1	
Q1706		2SD1119	TRANSISTOR	1	
QR1702		UN921F	TRANSISTOR-RESISTOR	1	
QR1703		UN521F	TRANSISTOR	1	
QR1704		UN5112	TRANSISTOR-RESISTOR	1	
R801		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R802		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R803		ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R804		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R805		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R806		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R807		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R808		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R810		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R812,13		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R820-25		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	6	
R826		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R827		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R828		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R829		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R830-32		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R833		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R834,35		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R836		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R837		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R838		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R839		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R841		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R842		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R843		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R844-47		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	4	
R848		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R849		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R850		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R851		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R853		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R855		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R856		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R857		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R858-60		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	

SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: Battery Pack; 4.8 V DC AC Adaptor; 6.0 V DC Consumption; 6.9 W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	VHS-C Cassette Tape (Tape width 12.7 mm)
TAPE SPEED	SP mode: 23.39 mm/s LP mode: 11.7 mm/s Record/Playback Time: SP mode: 60 min. with NV-EC60 LP mode: 120 min. with NV-EC60
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 0.7 Lux (Low Light Mode)
	LENS: 14:1 Wide-angle Power Zoom Lens with Digital AI Auto Focus, Auto Iris, Auto Focus System, F1.4 (3.9~54.6 mm), Filter Diameter 43 mm
	IMAGE SENSOR: 1/3 inch CCD Image Sensor
	VIEWFINDER: 0.5 inch Electronic Viewfinder

ITEM	SPECIFICATION
VIDEO	HEADS: 4 rotary heads, 1 flying erase head
	OUTPUT: PHONO CONNECTOR; 1.0 Vp-p 75Ω terminated
AUDIO	HEAD: 1 Stationary head (Normal-Mono)
	OUTPUT: PHONO CONNECTOR; −6 dB, 47 kΩ loaded/less than 1 kΩ
OPERATING TEMPERATURE	0~40°C
OPERATING HUMIDITY	10~80%
WEIGHT	Approx. 770 g (without Battery Pack)
DIMENSIONS	74(W)×143(H)×260(D) mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Cassette Adaptor 1 pc. Shoulder Strap 1 pc. DC Input Cable 1 pc. Battery for Cassette Adaptor Operation 1 pc. AC Cable 1 pc. AV Output Cable 1 pc. Remote Controller 1 pc. Remote Controller Holder 1 pc. Battery for Remote Controller

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

ORDER NO. VMD9603M116

Service Manual

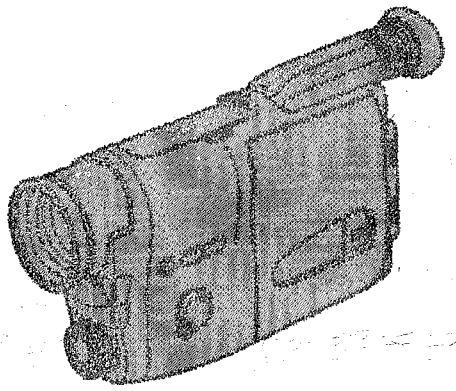
Panasonic VHS C PAL

HQ

VHS-C Movie

NV-RX6EN

DL-MECHANISM



SPECIFICATIONS/ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
TECHNICAL INFORMATION/ТЕХНИЧЕСКАЯ ИНФОРМАЦИЯ
ADJUSTMENT PROCEDURES/МЕТОДИКА РЕГУЛИРОВКИ
- Disassembly procedures/методика разборки
- Disassembly procedures of lens unit/методика разборки модуля линз
- Electrical adjustment procedures for E.V.F. section/процедура электрической регулировки (секция видоискателя)
- Circuit board layout/размещение монтажных плат

BLOCK DIAGRAMS AND SCHEMATIC DIAGRAMS/БЛОК-СХЕМЫ И ПРИНЦИПИАЛЬНЫЕ СХЕМЫ
- Sensor block diagram/блок-схема фотоэлектронного преобразователя
- Process block diagram/блок-схема обработки видеосигнала
- Lens drive block diagram/блок-схема привода линз
- Power block diagram/блок-схема электропитания
- System control and servo block diagram/блок-схема системы управления и сервопривода
- Luminance/chrominance and head AMP block diagram/блок-схема каналов яркости/цветности и усилителя видеоголовок
- CCD flexible card schematic diagram/принципиальная схема ПЗС матрицы
- Sensor schematic diagram/принципиальная схема фотоэлектронного преобразователя
- Lens drive schematic diagram/принципиальная схема привода линз
- Process schematic diagram/принципиальная схема обработки видеосигнала
- System control and servo schematic diagram/принципиальная схема системы управления и сервопривода
- Power schematic diagram/принципиальная схема элекропитания
- Sub servo schematic diagram/принципиальная схема сервопривода (дополнительная)
- Luminance/chrominance and head AMP schematic diagram/принципиальная схема каналов яркости/цветности и усилителя видеоголовок
- Audio schematic diagram/принципиальная схема аудиоусилителя
- E.V.F. schematic diagram/принципиальная схема видоискателя
- DC jack schematic diagram/принципиальная схема разъема подключения источника постоянного тока
- AV jack schematic diagram/принципиальная схема аудио\видео разъема
- MIC schematic diagram/принципиальная схема микрофона
- Front operation schematic diagram/принципиальная схема панели управления

EXPLODED VIEWS AND MECHANICAL REPLACEMENT PARTS LIST/СБОРОЧНЫЕ ЧЕРТЕЖИ И СПИСОК МЕХАНИЧЕСКИХ ЗАПАСНЫХ ЧАСТЕЙ
- VTR mechanism section (1)/механизм видеомагнитофона (секция 1)
- VTR mechanism section (2)/механизм видеомагнитофона (секция 2)
- VTR mechanism section (3)/механизм видеомагнитофона (секция 3)
- Camera lens section/модуль оптики
- Frame and casing parts section/корпус и шасси
- Packing parts and accessories section/упаковочные материалы и принадлежности

ELECTRICAL REPLACEMENT PART LIST/СПИСОК ЭЛЕКТРИЧЕСКИХ ЗАПАСНЫХ ЧАСТЕЙ

Panasonic

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Service caution.

1-1. Service Extension Cables.

Use the following extension cables when checking or adjusting individual circuit bords.

Ref	Part No.	PIN	Part Name	Connection	Q'ty	Remaks
①	VFK0670	18	Flat Cable	FP6001(Main) ~ Mech. Chassis	1	
②	VFK0670	18	Flat Cable	FP2002(Main) ~ Capstan Motor	1	
③	VFK0978	6	Flat Cable	FP6002(Main) ~ Mech. Chassis	1	
④	VFK0929	12	Flat Cable	PP201(SENSOR)~ CCD	1	
⑤	VFK0980	9	Flat Cable	FP4001(Main) ~ A/C HEAD	1	
⑥	VFK0913	18	Flat Cable	FP701 (Main) ~ LENS UNIT	1	
⑦	VFKW0F0139	7	Attachment Connector	FP2001(Main) ~ CYLINDER	1	Included in Tatsujin-Kit
	VFKW0F0140	7	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑧	VFK0668	24	Extension Cable	PS1001(Main) ~ PP1601	1	

How to use extension cables.

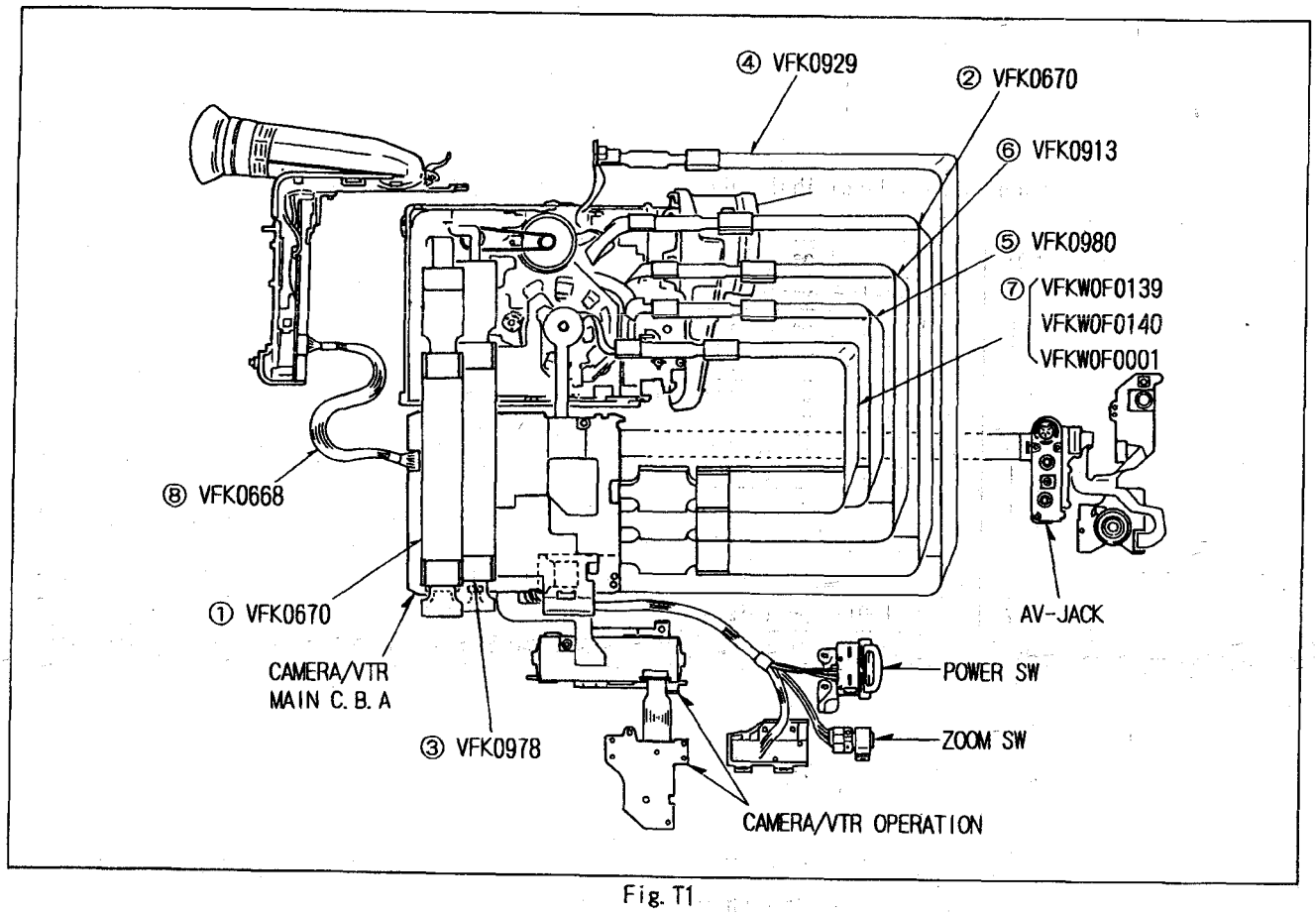


Fig. T1

Note 1: For Serviceing, remove the 4 parts from the side case(L).

1). AV-JACK

2). POWER SW

3). ZOOM SW

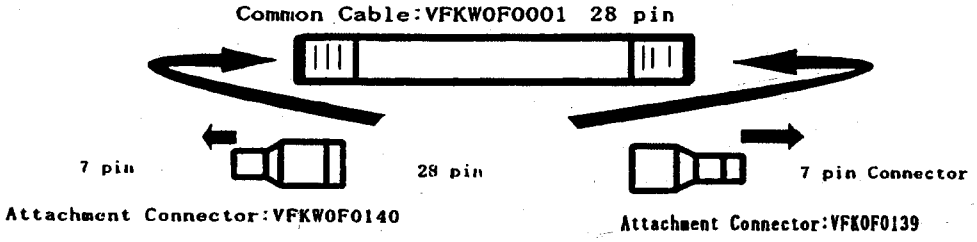
4). CAMERA/VTR OPERATION

Note:2

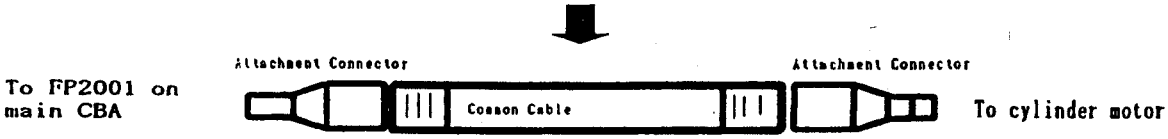
How to use the new type extension cables are as follows.

(This model used new extension cables between FP2001(Main) and CYLINDER.)

1. Attach the attachment connector(VFKW0F0139 & VFKW0F0140) to Common Cable(VFKW0F0001) as follows. Please check the direction of conductors between attachment connector and Common Cable.



2. Connect the attachment connector(VFKW0F0139) to the Cylinder Motor.
3. Connect the attachment connector(VFKW0F0140) to the FP2001 on Main C.B.A.



1-2. Service Extension Cables. (In case of Tatsujin Cable)

Use the following extension cables when checking or adjusting individual circuit bords.

Ref	Part No.	PIN	Part Name	Connection	Q'ty	Remaks
①	VFKW0F0033	18	Attachment Connector	FP6001(Main) ~ Mech. Chassis	1	
	VFKW0F0055	18	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
②	VFKW0F0033	18	Attachment Connector	FP2002(Main) ~ Capstan Motor	1	
	VFKW0F0055	18	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
③	VFKW0F0128	6	Attachment Connector	FP6002(Main) ~ Mech. Chassis	1	Included in Tatsujin-Kit
	VFKW0F0127	6	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
④	VFKW0F0118	12	Attachment Connector	PP201 (SENSOR) ~ CCD	1	
	VFKW0F0117	12	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑤	VFKW0F0132	9	Attachment Connector	FP4001(Main) ~ A/C HEAD	1	
	VFKW0F0131	9	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑥	VFKW0F0111	18	Attachment Connector	FP701 (Main) ~ LENS UNIT	1	
	VFKW0F0112	18	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑦	VFKW0F0139	7	Attachment Connector	FP2001(Main) ~ CYLINDER	1	
	VFKW0F0140	7	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑧	VFK0668	24	Extension Cable	PS1001(Main) ~ PP1601	1	

SERVICE INFORMATION

1. SERVICE INFORMATION DISPLAY

General Description

This Movie Camera has SERVICE INFORMATION DISPLAY function which facilitates quick trouble-shooting. You can turn on the Service Information Display, by performing the following procedures. This causes the Service Information to be displayed on the EVF. (There are 4 kinds of SERVICE MODE, as shown below.) In the OSD Line Output Mode, Service Information can also be viewed on the TV.

MODE NAME	FUNCTION	How to turn it ON. (Push following keys simultaneously for at least 2 sec.)		
OSD Line Output MODE	• Checking the EVF information on the TV monitor.	DATE/TIME SET (TOP PANEL)	RESET (TOP PANEL)	DATE TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON. (Push following keys simultaneously for at least 2 sec.)		
SERVICE MODE 1	• Remaining Battery A/D Value • Safety Device • Capstan/Cylinder injuctions	DATE/TIME SHIFT (TOP PANEL)	RESET (TOP PANEL)	DATE TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 1, Push [DATE/TIME] key. (SIDE PANEL)
SERVICE MODE 2	• Reference Voltage A/D Value • Mechanism position • Serial key code.	DATE/ TIME

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 2, Push [DATE/TIME] key. (SIDE PANEL)
SERVICE MODE 3	• ERROR CODE Display	DATE/ TIME

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 3, Push [DATE/TIME] key. (SIDE PANEL)
SERVICE MODE 4	•PG SHIFTER ADJUSTMENT	DATE/ TIME

ERROR CODE DISPLAY

When undesirable conditions occur, the "ERROR CODE" will automatically be displayed on the EVF. Also the CAMERA LED will flash for a short time, then the power will be turned off.
By turning on Service Mode 3, you can check to see what kind of undesirable condition occured, even after the ERROR CODE has disappeared. (To perform the Service Mode 3, do not disconnect the AC adoptor or battery pack, after undesiable condition occured.)
To clear the ERROR CODE, disconnect the AC Main Lead or the battery has been diconnected.

This movie camera has the built in Rechargeble Lithum Battery.
It maintain the operation of the built-in clock and error code for the Service Mode when the Movie camera turn off.
To clear the error code, make shoot the IC6001 pin 25 to GND for reset the IC6001.
Indication for built in clock return to initial condition make make reset the IC6001.

How to use extension cables.

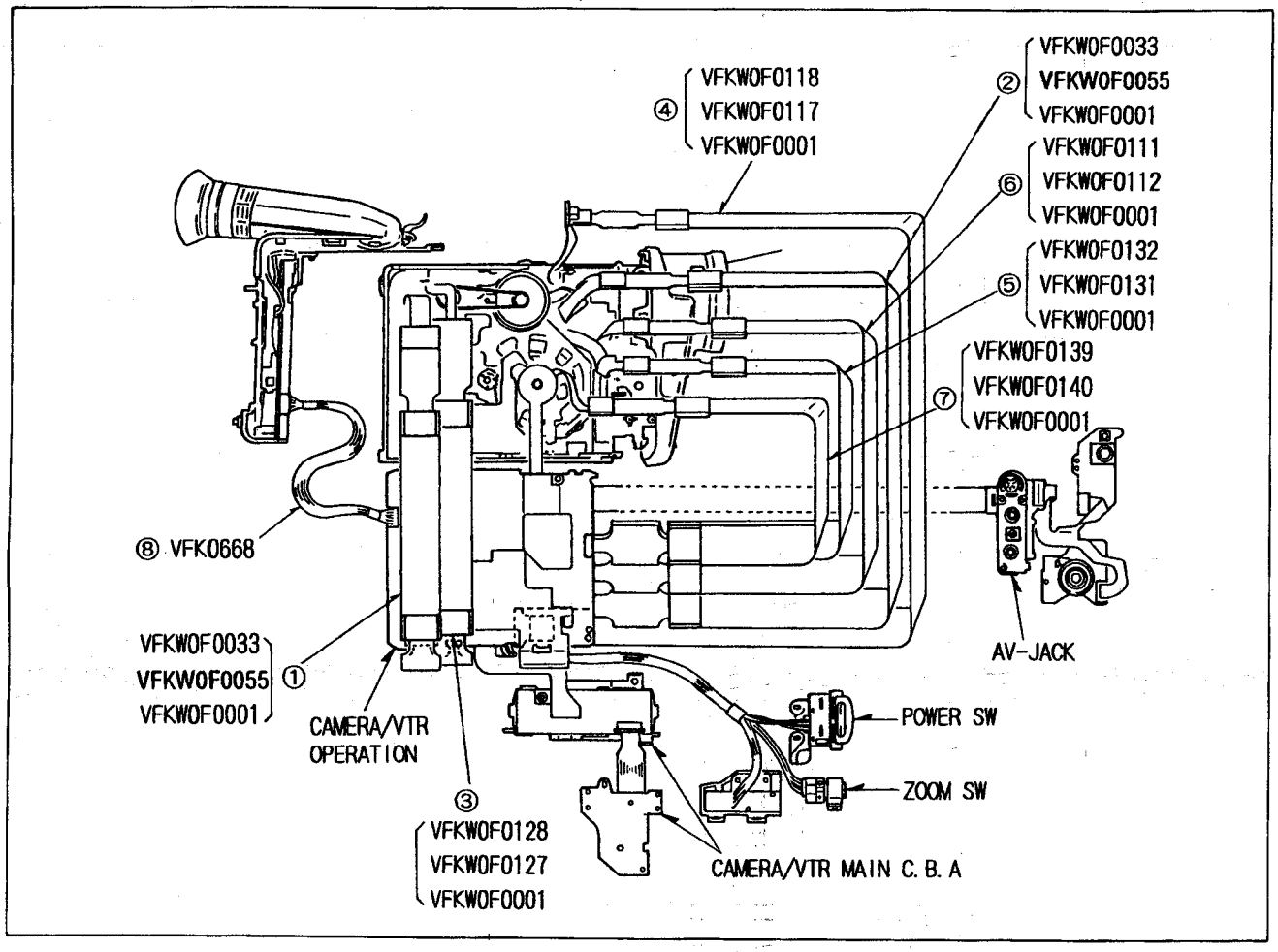


Fig. T2

Note 1: Contents of all Service Mode(Service Mode 1~Service Mode 4) same as privious models.
So we will issure Techincal information for Service Mode.
Order Number for this document is as follows.
Order Number for Techinical Information : VMD9512M138

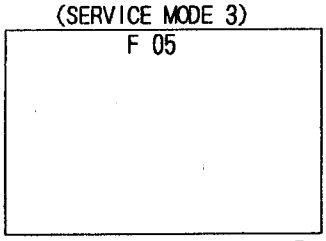
Note 2 : Contents of all Service Mode(Service Mode 1~Service Mode 4) same as privious models.
We will issure Techincal information for Service Mode.
But Service Mode 3 is Error code Display. It is important for Service.
So this service manual contain for this information.

SERVICE MODE 3

After undesirable conditions occured, you can see what kind of error occured by turning on the Service Mode 3.
When you turn on the service mode 3, the error code is displayed on E.V.F.
Also the Camera LED is flashed according to Error code.

(SERVICE MODE 3)

Display: (Example)



F 0 5
*. Detected the Cylinder lock

Display position ⇒ O : O O . O O (The position of linear time counter)
(See Fig. I)
Blank (No display)
01~05, 10~11, 51, 52
F or U

DISPLAY	CONDITION	The Power off timing
F 0 1	T-REEL LOCK	After 1 minute (flashing the LED)
F 0 2	S-REEL LOCK	
F 0 3	UNLOADING LOCK	
F 0 4	LOADING LOCK	
F 0 5	CYLINDER LOCK	
F 5 1	FOCUS MOTOR LOCK	----------
F 5 2	ZOOM MOTOR LOCK	
U 1 0	DEW DETECTION	After 18 minutes(flashing the LED)
U 2 0	HEAD CLOGGING	Not turning off

Fig. I Error Code

Lock Condition	Power LED Flashing Timming
T-REEL LOCK (F01)	↔ 2.56sec
S-REEL LOCK (F02)	↔ 0.16sec
UNLOADING LOCK (F03)	
LOADING LOCK (F04)	
CYLINDER LOCK (F05)	
OTHERS (U10 & U11)	Power LED is flashed at 1 Hz timing

Fig. J LED Flashing Timing

2. How to Check Digital Circuit

2-1. Checking Principle

The digital circuit can be checked if a ramp signal (Sawtooth signal) is supplied to the input of A/D converter (IC302-29).

The output of A/D converter is described below.
In addition to the A/D converter IC302 output, all digital ICs input and output signals become specified pulses which are listed in schematic diagram.

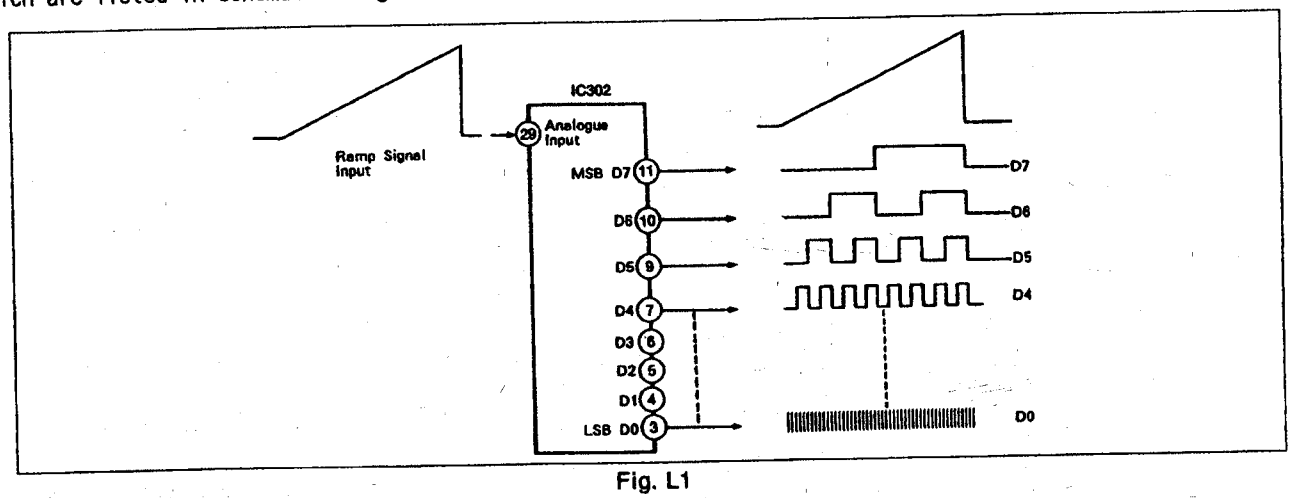
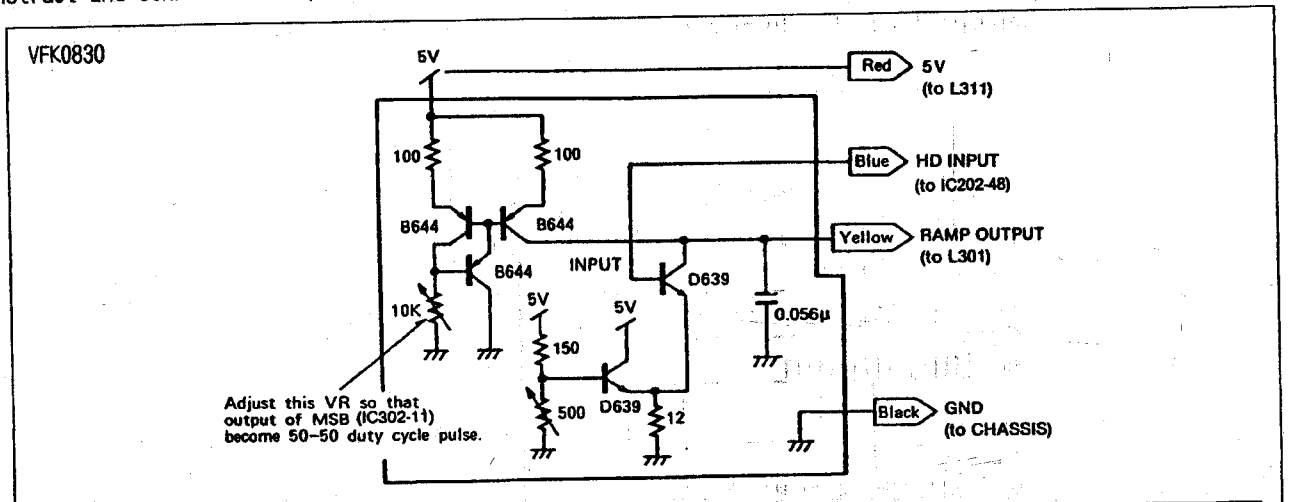


Fig. L1

2-2. How to Connect ramp generator.

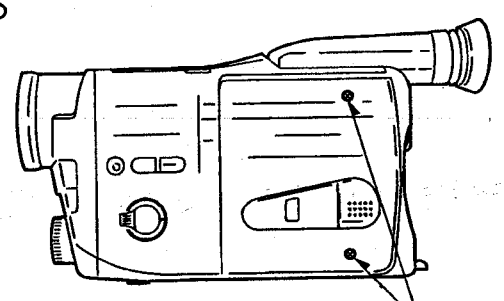
In order to generate a ramp signal that synchronize with the HD signal (Horizontal Drive) of the camera, the following ramp generator circuit has been designed.
Construct and connect it to process borad as shown in Fig. L2, L3.



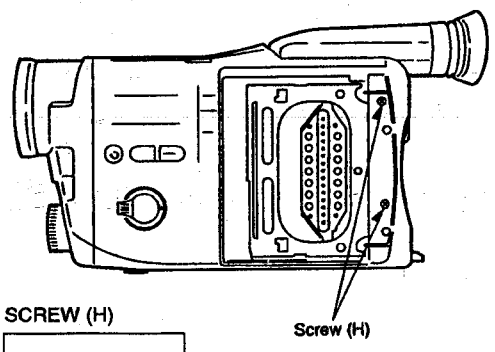
ITEMS	VALUE	PCS	ITEMS	VALUE	PCS	ITEMS	VALUE	PCS
RESISTOR			VARIABLE RESISTOR			TRANSISTOR		
ERDS2TJ120	12ohm	1	EVNDRAA00B14	10Kohm	1	2SB644	PNP	3
ERDS2TJ101	100ohm	2	EVNDRAA00B52	500ohm	1	2SD639	NPN	2
ERDS2TJ151	150ohm	1	CAPACITOR					
			ECQB1H563JH	0.056μ	1			

Fig. L2

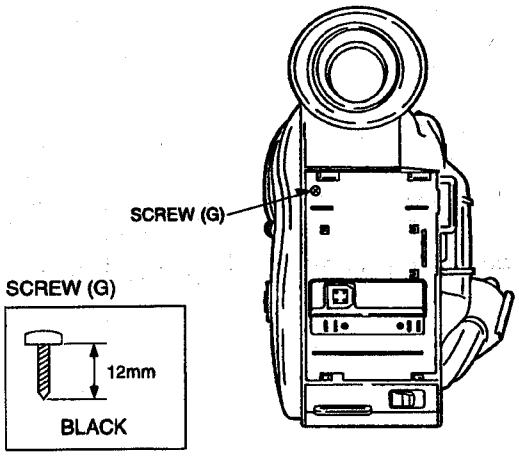
⑤


SCREW (F)
Screw (F)
5mm
BLACK

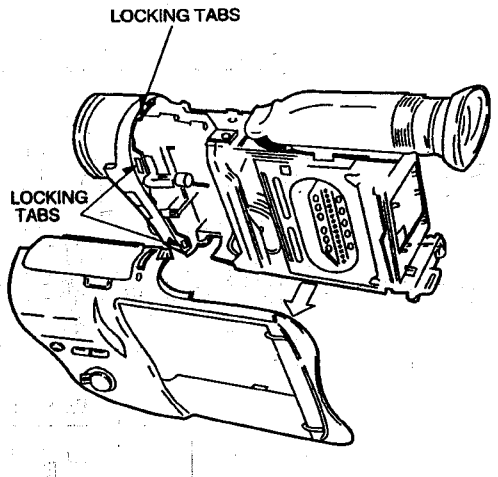
⑧


SCREW (H)
Screw (H)
5mm
BLACK

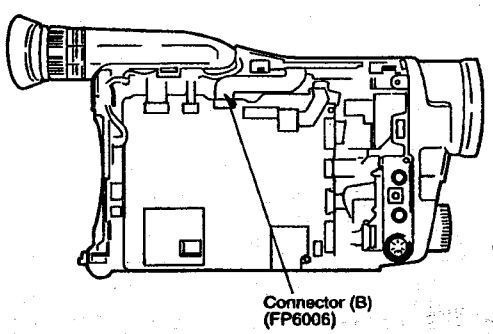
⑥


SCREW (G)
SCREW (G)
12mm
BLACK

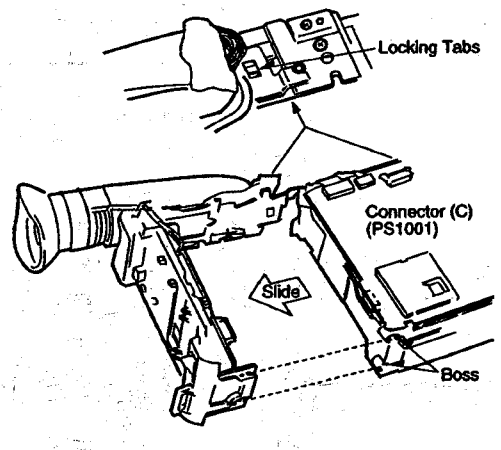
⑨


LOCKING TABS
LOCKING TABS

⑦


Connector (B)
(FP6006)

⑩

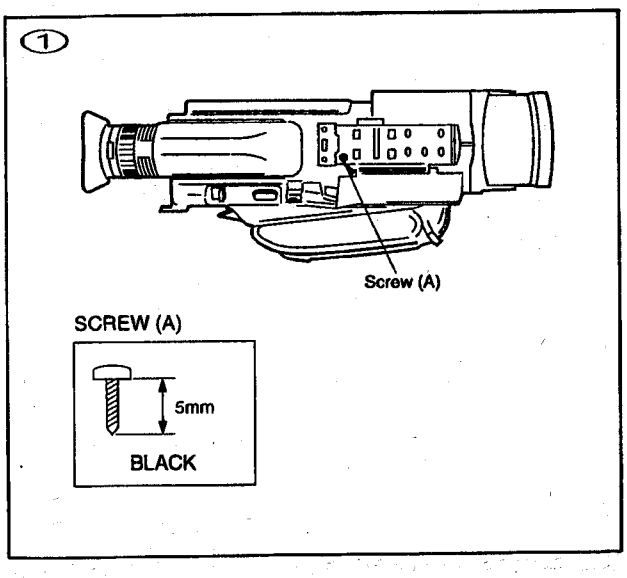

Locking Tabs
Connector (C)
(PS1001)
Slide
Boss

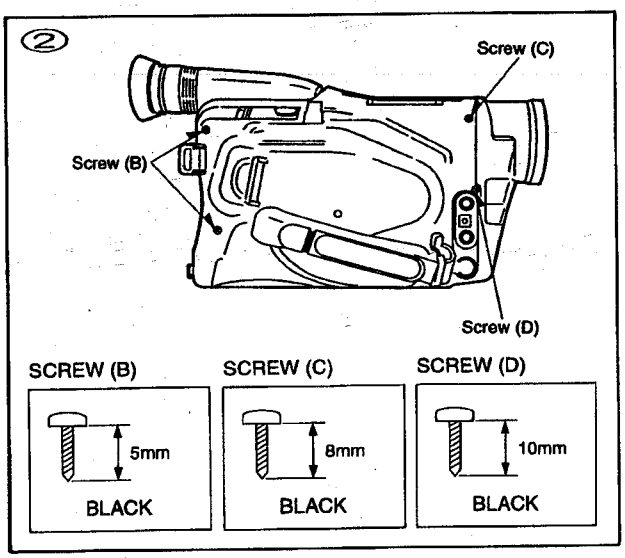
SECTION 2
ADJUSTMENT PROCEDURES

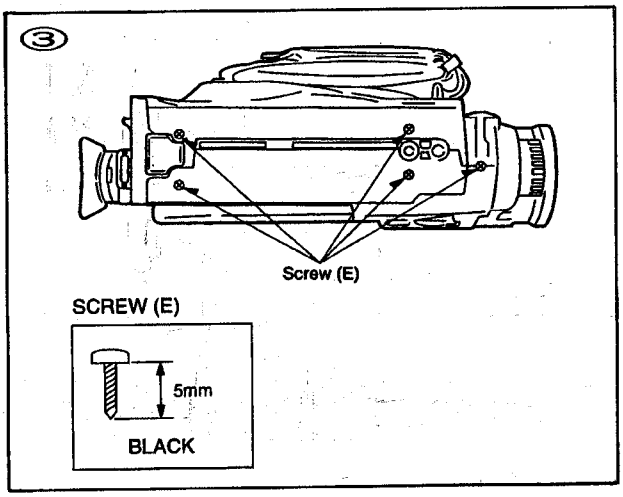
2-1. DISASSEMBLY PROCEDURES

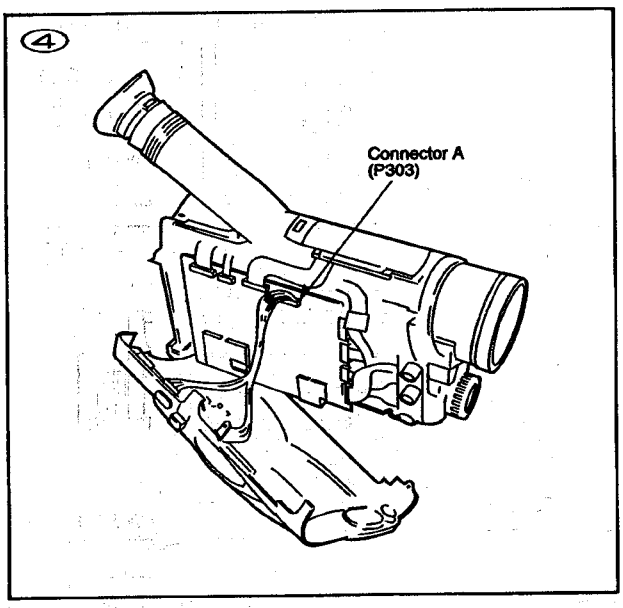
Flow-Chart for Disassembly Procedure

NBR	ITEM/PART	Fig.	Removal(SCREW)
【1】	Side Case (L).	①	1-SCREW (A)
		②	4-SCREWs(B/C/D)
		③	5-SCREWs(E)
		④	Slightly open the side case (L) Disconnect(Connector A).
【2】	Cassette Cover	⑤	2-SCREWs(F)
【3】	Side Case (R).	⑥	1-SCREW (G)
		⑦	Disconnect(Connector B)
		⑧	2-SCREWs(H)
		⑨	Unlock---3 Locking Tabs Remove the Side Case (R)
【4】	EVF-Unit	⑩	Unlock---2 Locking Tabs Disconnect(Connector C)
【5】	Front Case	⑪	1-SCREW(I) Unlock---2 Locking Tabs Disconnect(Connector D)
【6】	Main C.B.A	⑫	2-SCREWs(J/K) Unsolder the Shield Case Disconnect(Connector E/F/G/H/I Connector J)
		⑬	Disconnect(Connector K/L)
【7】	Lens-Unit	⑭	2-SCREWs(L)
【8】	Front C.B.A & Mic Unit	⑮	Remove the Focus Dial/Nut Remove the Spacer/Spacer Knob Remove the knob Spacer
		⑯	Disconnect (Connector M) Unlock ---Locking Tabs Remove the AV-Jack C.B.A
		⑰	4-SCREWs(M) Remove the Front C.B.A Remove the Mic Unit
【9】	E.V.F C.B.A (E.V.F A/B/C)	⑱	4-SCREWs(N)
		⑲	Disconnect (Connector N/O/P/Q)

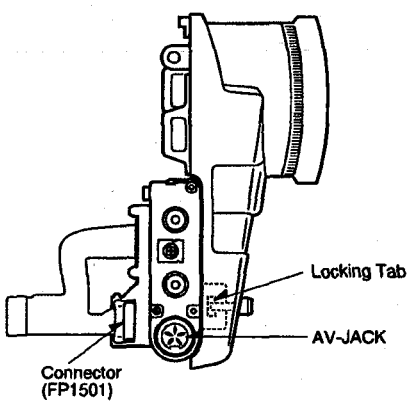








⑯



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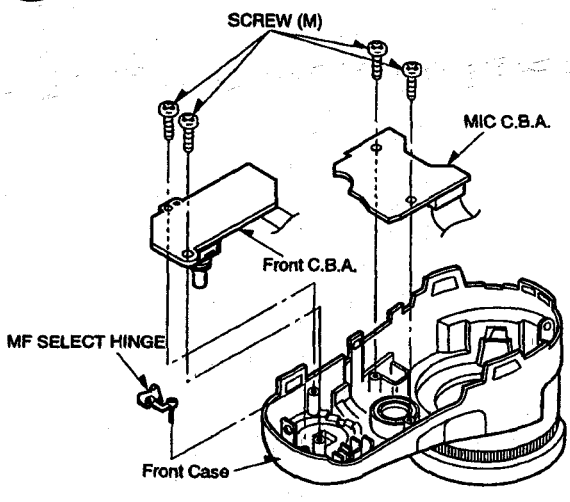
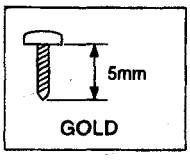
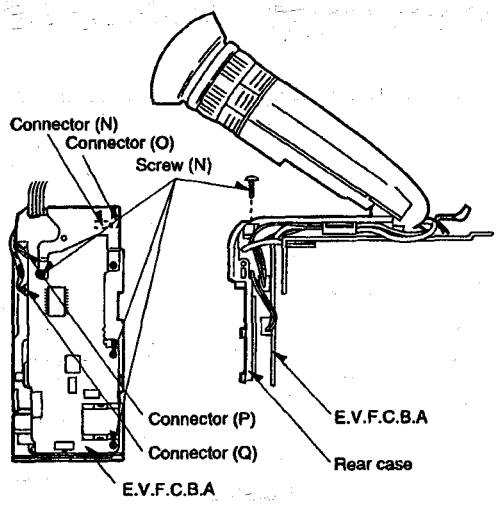


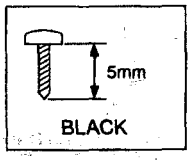
SCREW (M)



⑱



SCREW (N)



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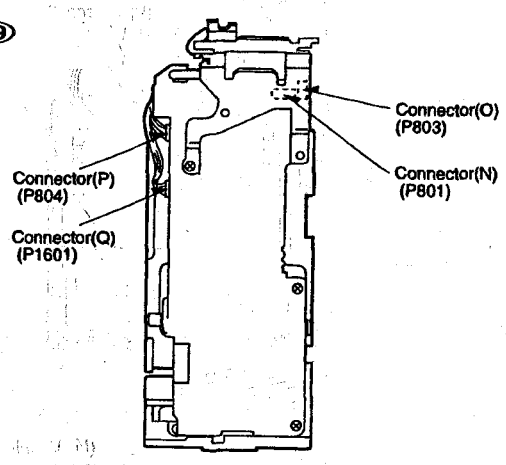
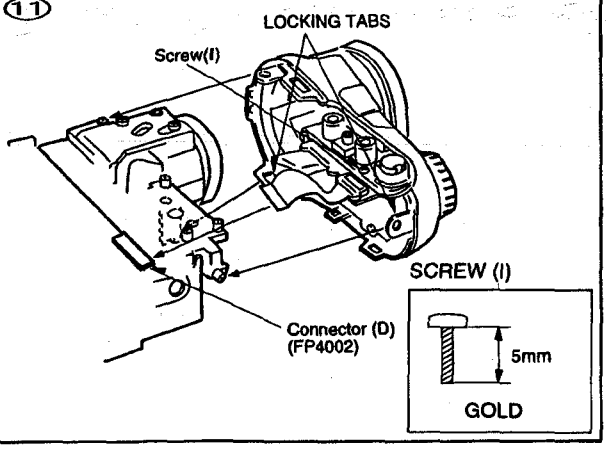
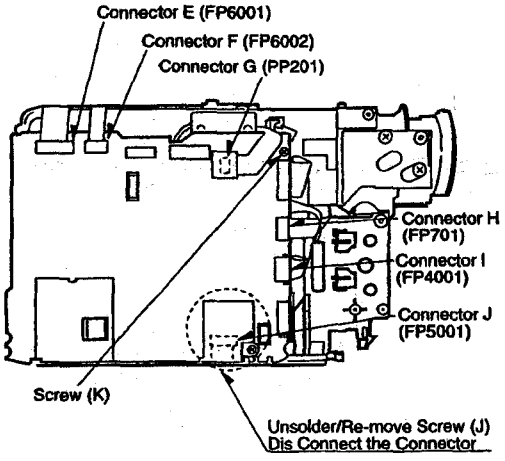
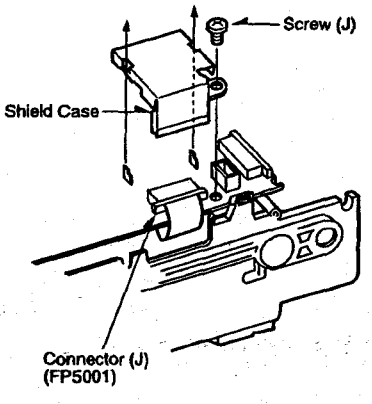


⑪

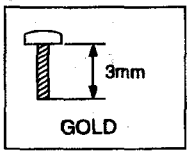


⑫

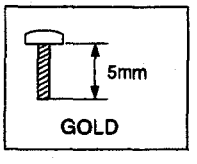




SCREW (J)



SCREW (K)



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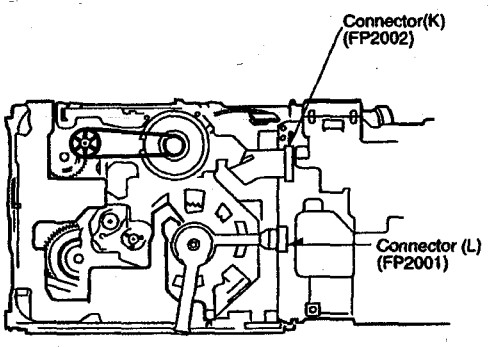
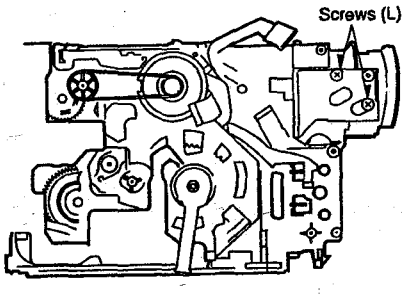
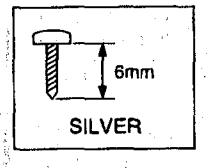


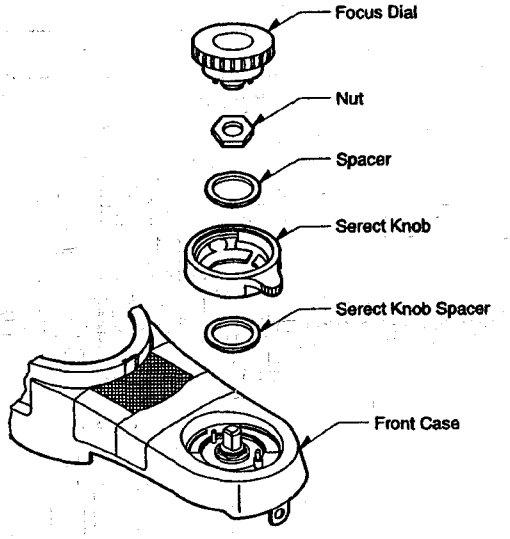
⑭



SCREW (L)



⑮



2-2. DISASSEMBLY PROCEDURES OF LENS UNIT

The following flowchart describes order or steps for removing the Lens Units and certain printed circuit boards in order to make access to the item needing service.
To reassemble the unit follow the steps in reverse order.

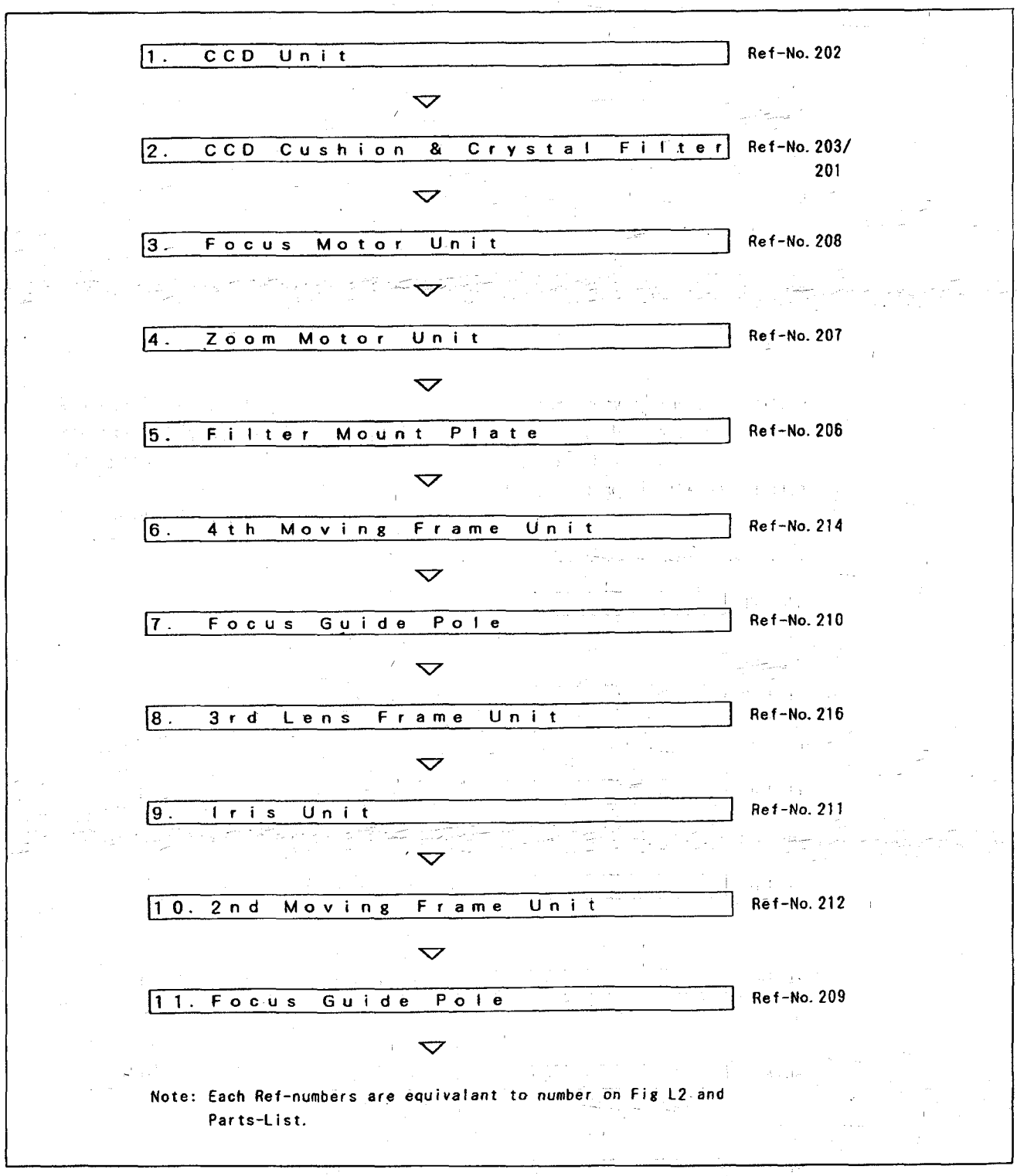


Fig. L1

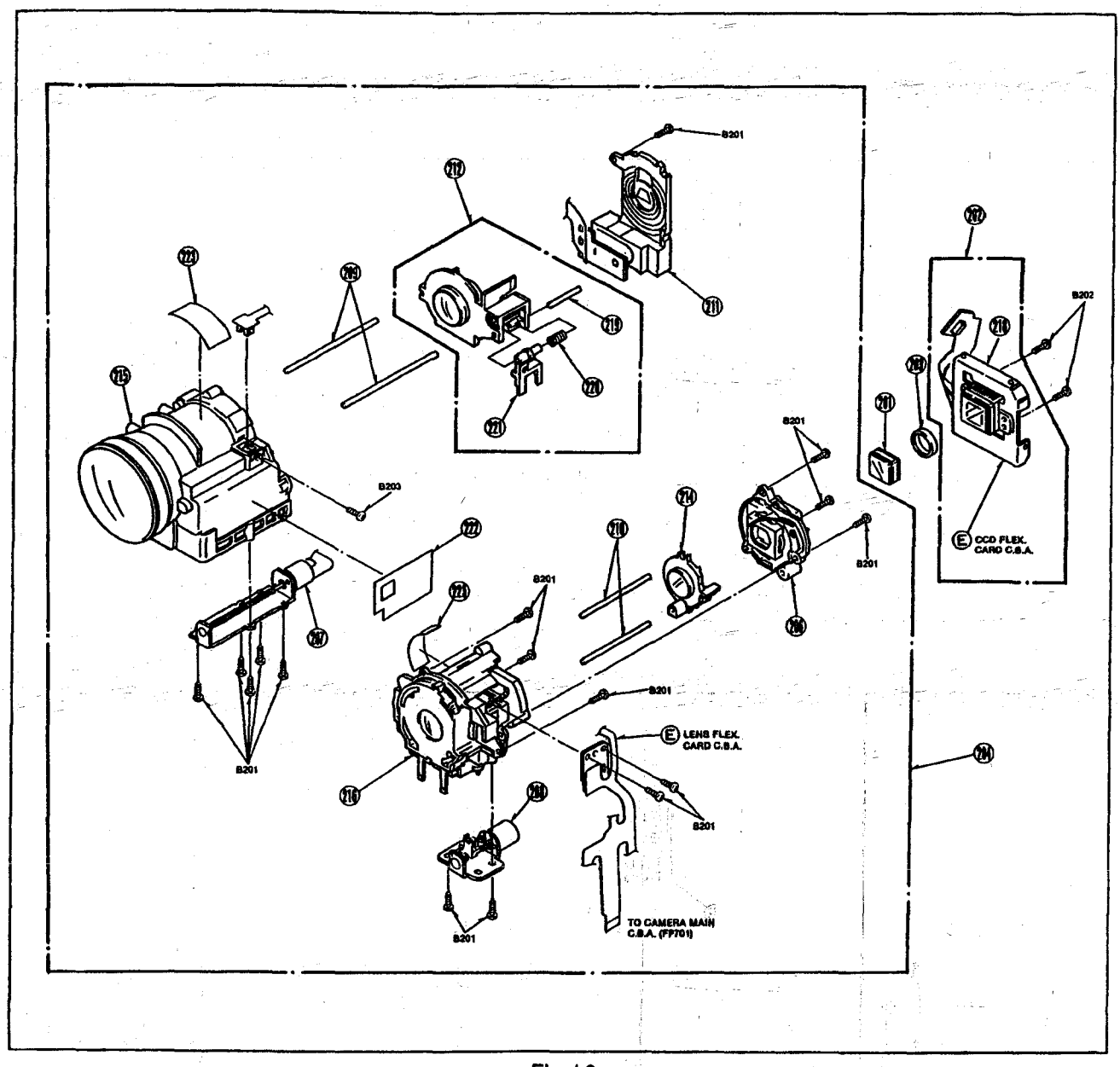

B201
B202
B203
E CCD FLEX. CARD C.B.A.
E LENS FLEX. CARD C.B.A.
TO CAMERA MAIN C.B.A. (FP701)

Fig. L2

Preparation

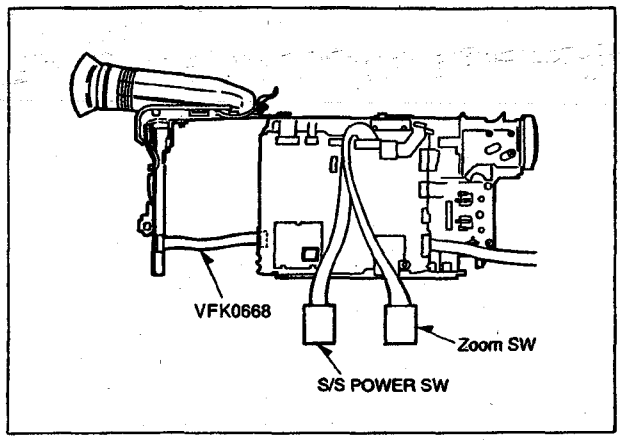


Fig. E1

CENTREING ADJUSTMENT

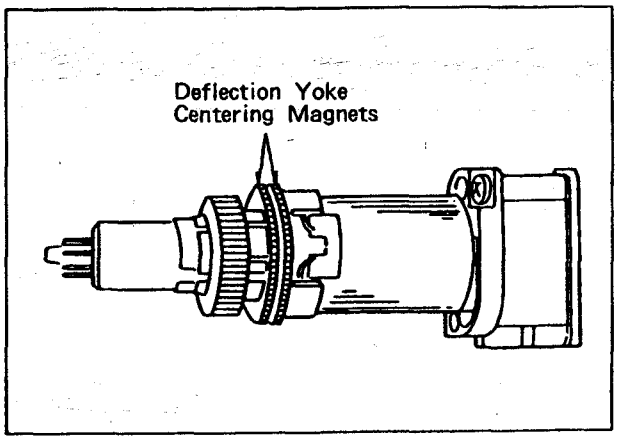


Fig. E2

FOCUS ADJUSTMENT

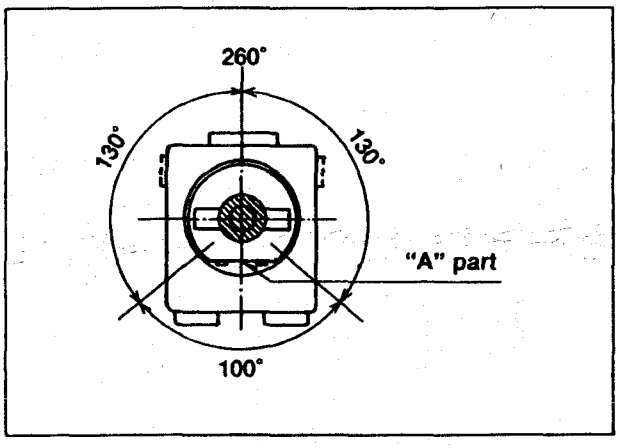


Fig. E3

VERTICAL ADJUSTMENT

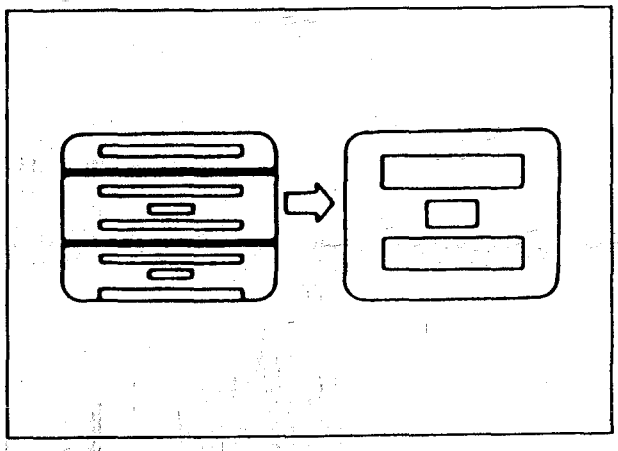
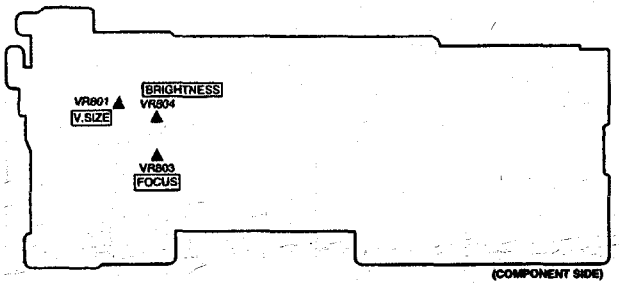


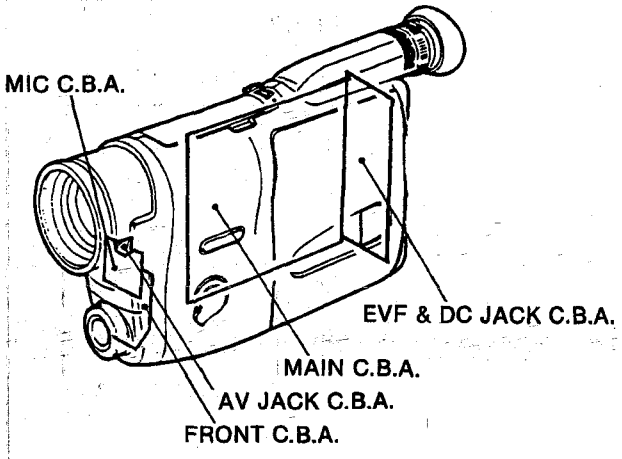
Fig. E4

LOCATION OF CONTROLS

EVF C.B.A.

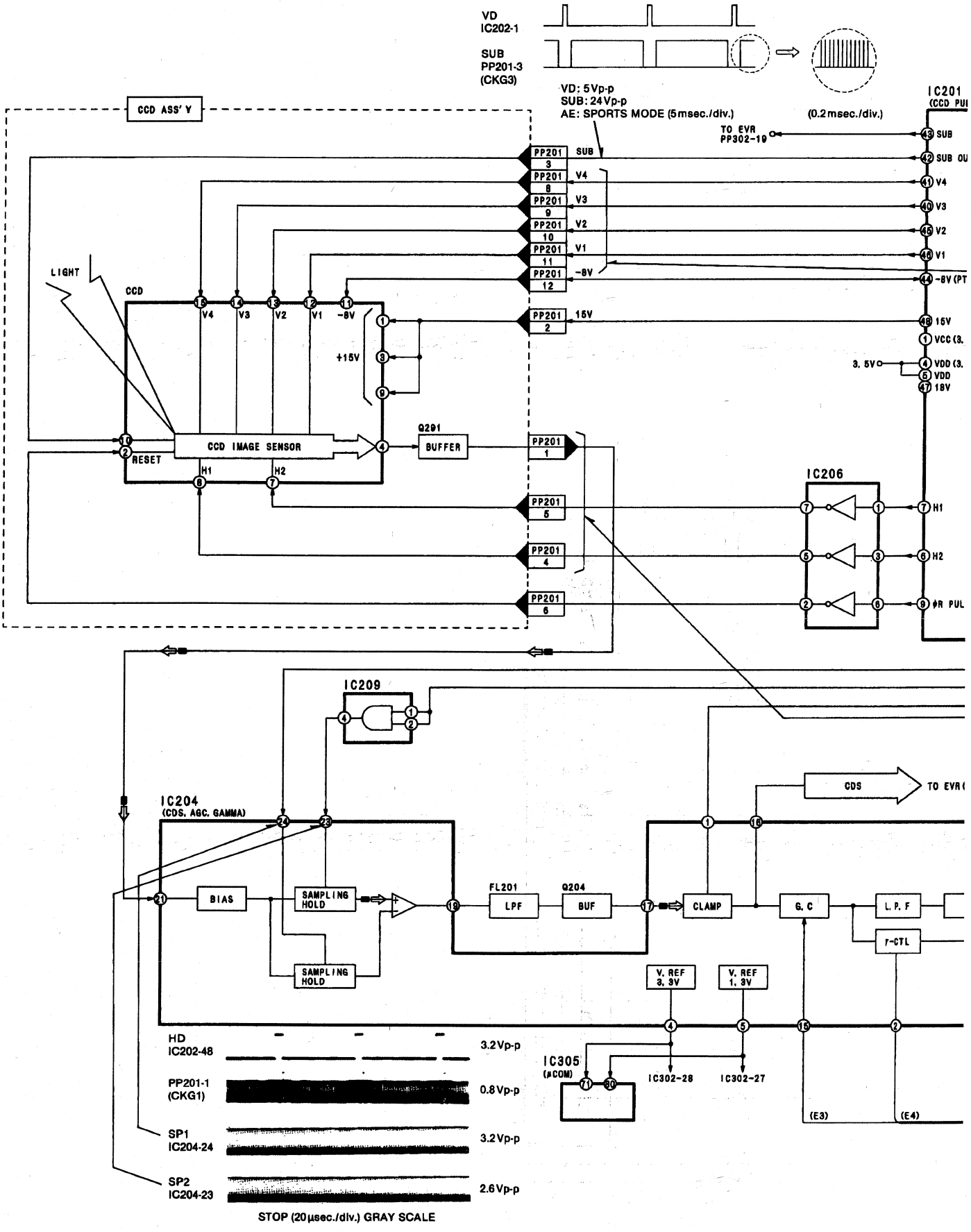


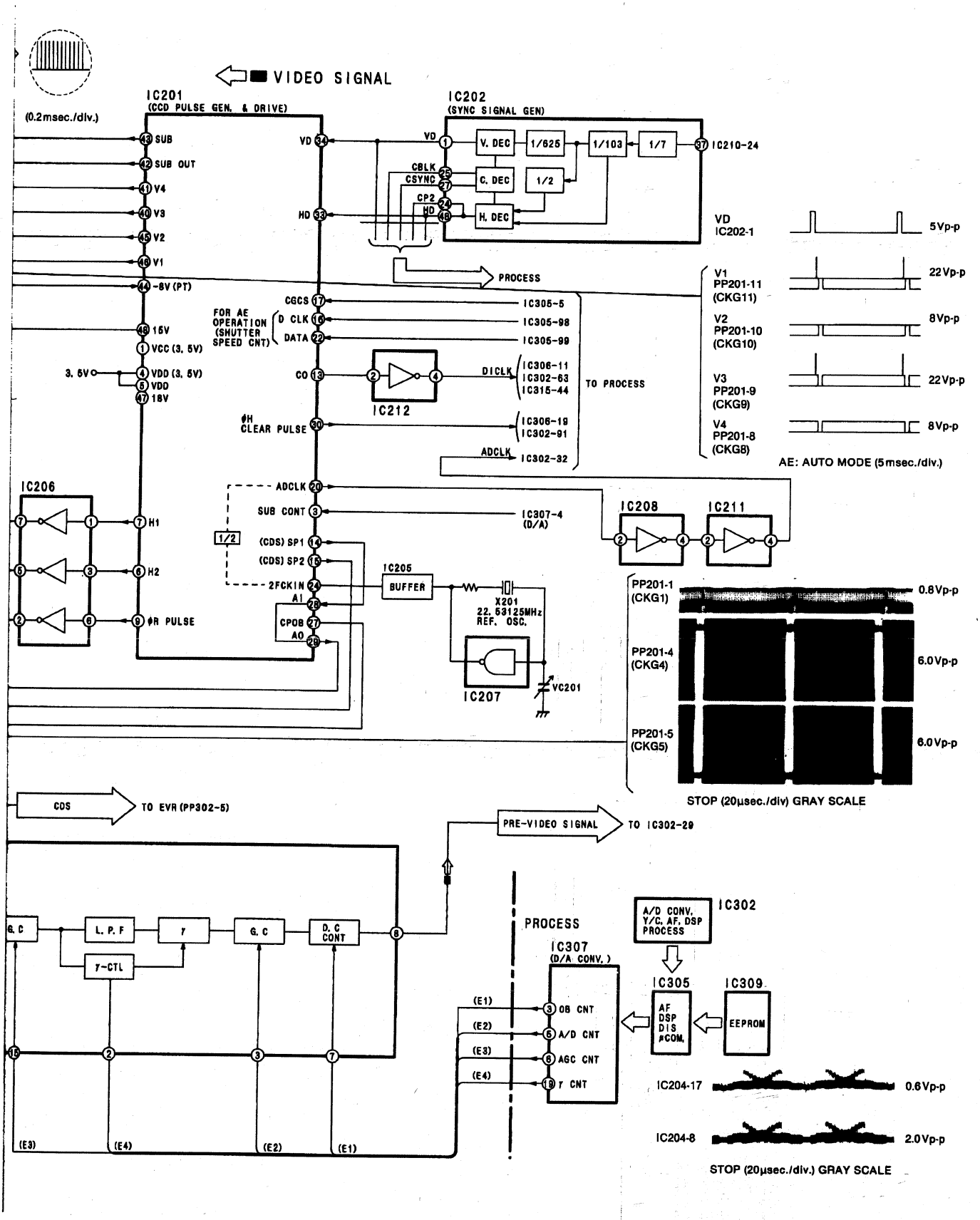
2-4. CIRCUIT BOARD LAYOUT



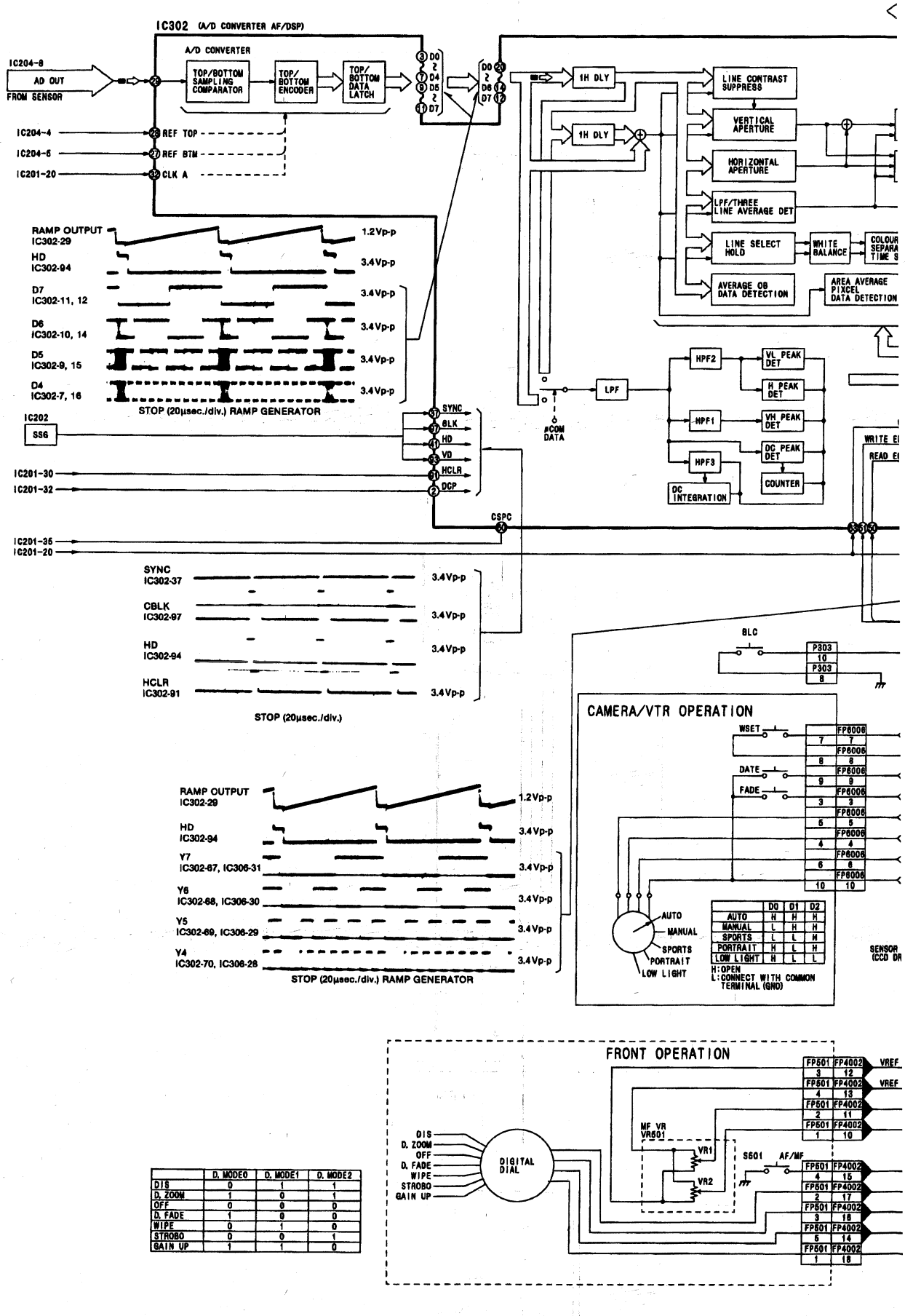
Note: Adjutment for CAMERA/VTR Section requied EVR fixture.
So, adjustment procedure described on Service manual VMD9603M117.

3-2. SENSOR BLOCK DIAGRAM

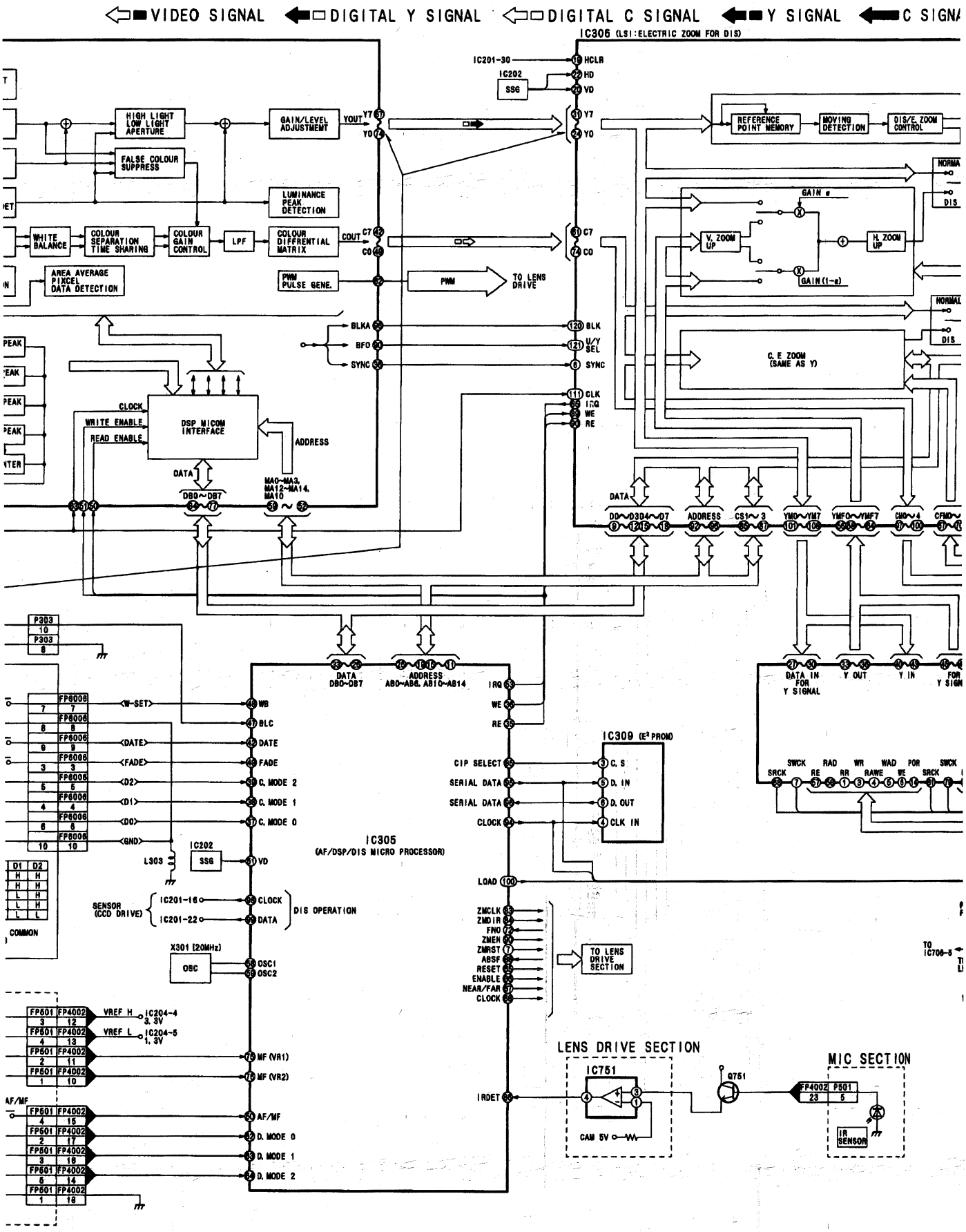


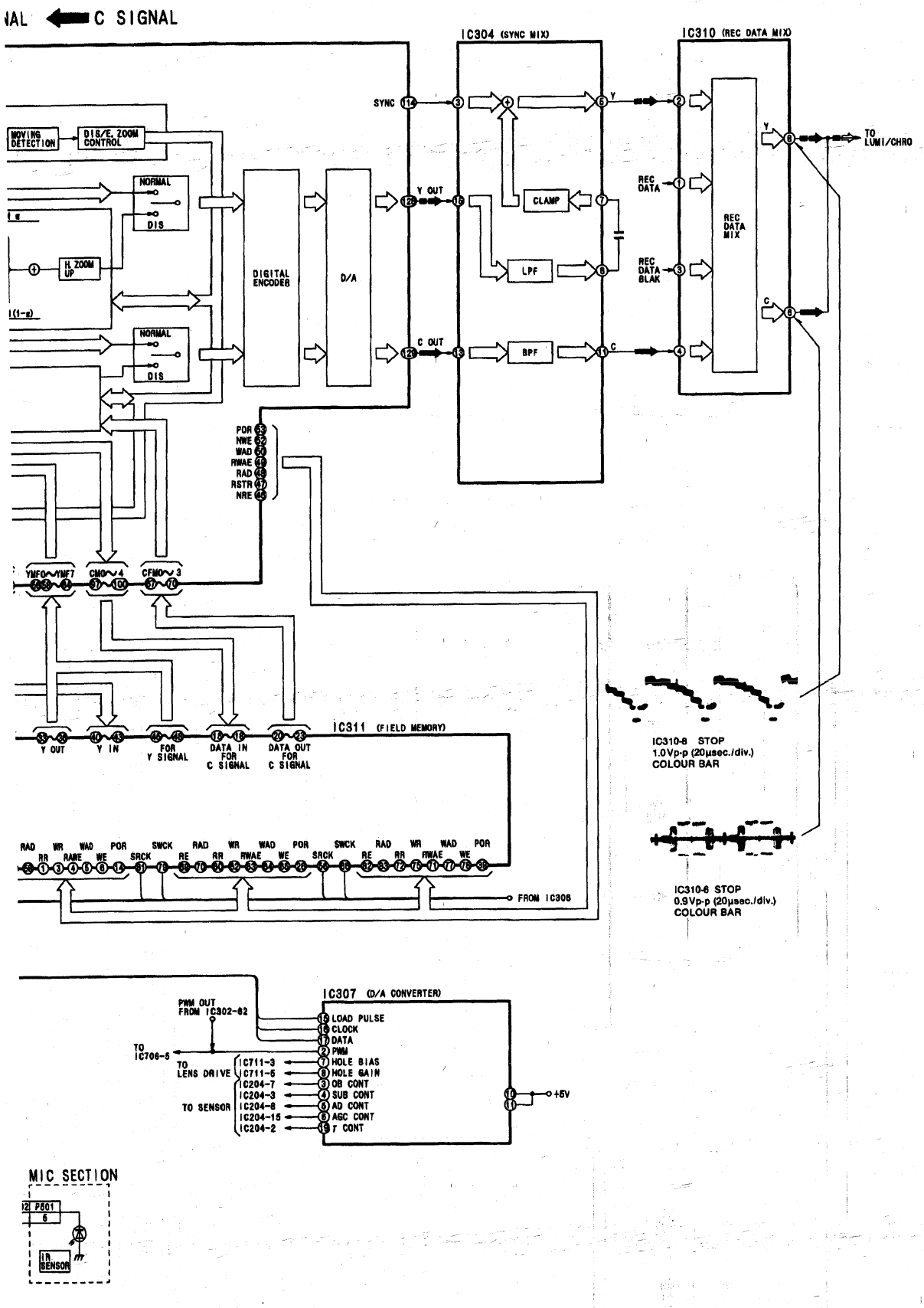

VIDEO SIGNAL
(0.2msec./div.)
IC201
(CCD PULSE GEN. & DRIVE)
IC202
(SYNC SIGNAL GEN)
SUB
SUB OUT
V4
V3
V2
V1
-8V (PT)
15V
VCC (3. 5V)
3. 5V
VDD (3. 5V)
VDD
18V
VD
HD
CBLK
CSYNC
CP2
V. DEC
1/625
1/103
1/7
C. DEC
1/2
H. DEC
IC210-24
VD
IC202-1
5Vp-p
PROCESS
V1
PP201-11
(CKG11)
22Vp-p
V2
PP201-10
(CKG10)
8Vp-p
V3
PP201-9
(CKG9)
22Vp-p
V4
PP201-8
(CKG8)
8Vp-p
AE: AUTO MODE (5msec./div.)
CGCS
FOR AE OPERATION (SHUTTER SPEED CNT)
D CLK
DATA
IC305-5
IC305-98
IC305-99
CO
IC212
DICLK
IC306-11
IC302-63
IC315-44
TO PROCESS
ϕH CLEAR PULSE
IC306-19
IC302-91
ADCLK
IC302-32
IC206
H1
H2
ϕR PULSE
ADCLK
SUB CONT
IC307-4 (D/A)
1/2
(CDS) SP1
(CDS) SP2
2FCKIN
AI
CPOB
AO
IC205
BUFFER
X201
22. 53125MHz
REF. OSC.
IC207
VC201
IC208
IC211
PP201-1
(CKG1)
0.8Vp-p
PP201-4
(CKG4)
6.0Vp-p
PP201-5
(CKG5)
6.0Vp-p
STOP (20μsec./div) GRAY SCALE
CDS
TO EVR (PP302-5)
PRE-VIDEO SIGNAL
TO IC302-29
G. C
L. P. F
γ
G. C
D. C CONT
γ-CTL
PROCESS
IC307
(D/A CONV.)
OB CNT
A/D CNT
AGC CNT
γ CNT
(E1)
(E2)
(E3)
(E4)
A/D CONV. Y/C. AF. DSP PROCESS
IC302
IC305
AF DSP DIS μCOM.
IC309
EEPROM
IC204-17
0.6Vp-p
IC204-8
2.0Vp-p
STOP (20μsec./div.) GRAY SCALE

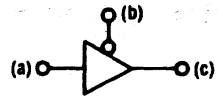
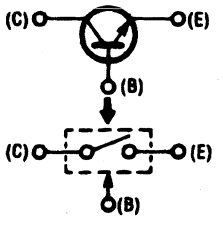
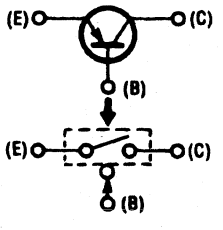
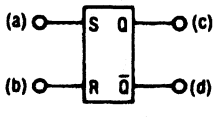
3-3. PROCESS BLOCK DIAGRAM



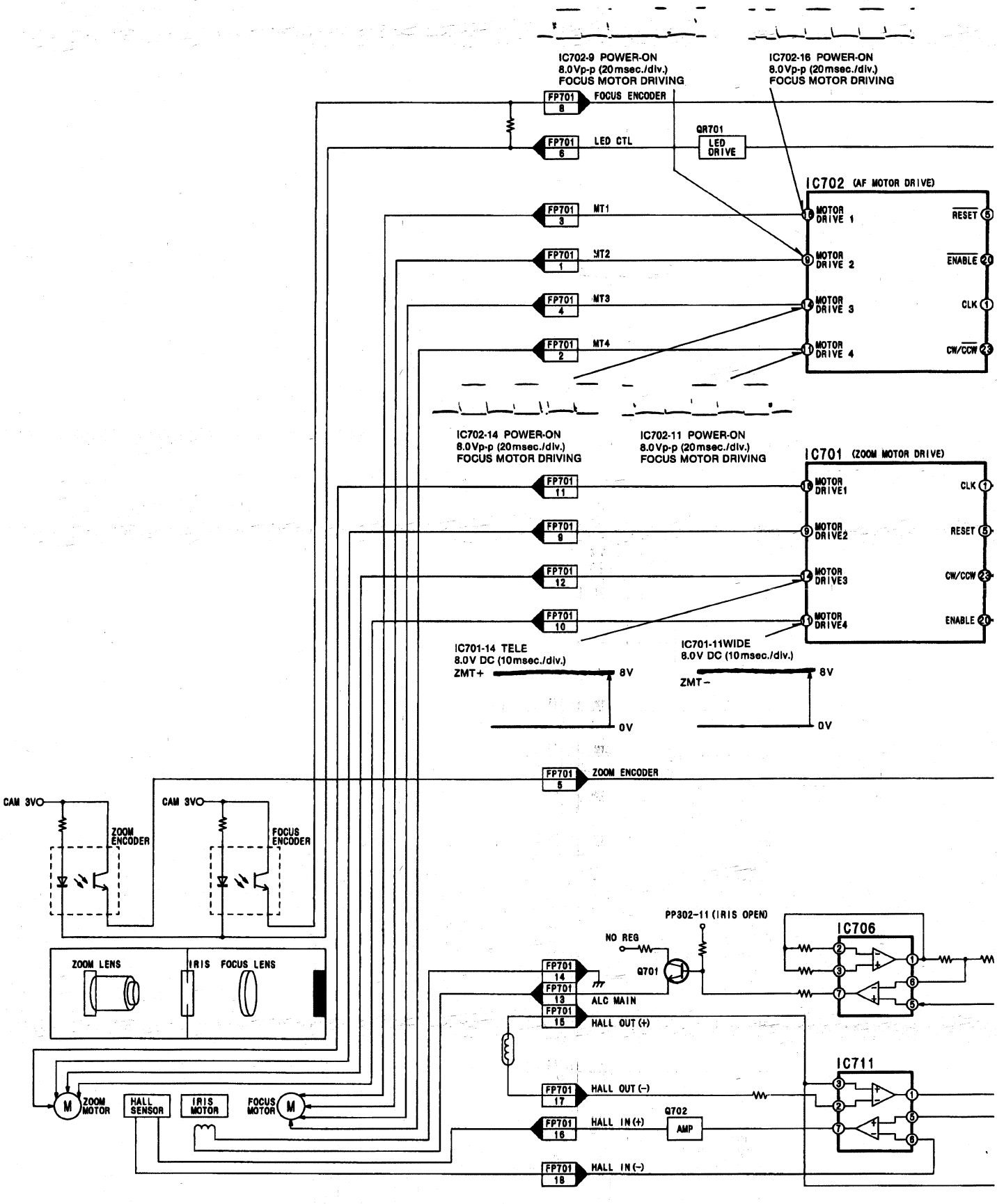
	D. MODE0	D. MODE1	D. MODE2
DIS	0	1	1
D. ZOOM	1	0	1
OFF	0	0	0
D. FADE	1	0	0
WIPE	0	1	0
STROBO	0	0	1
GAIN UP	1	1	0

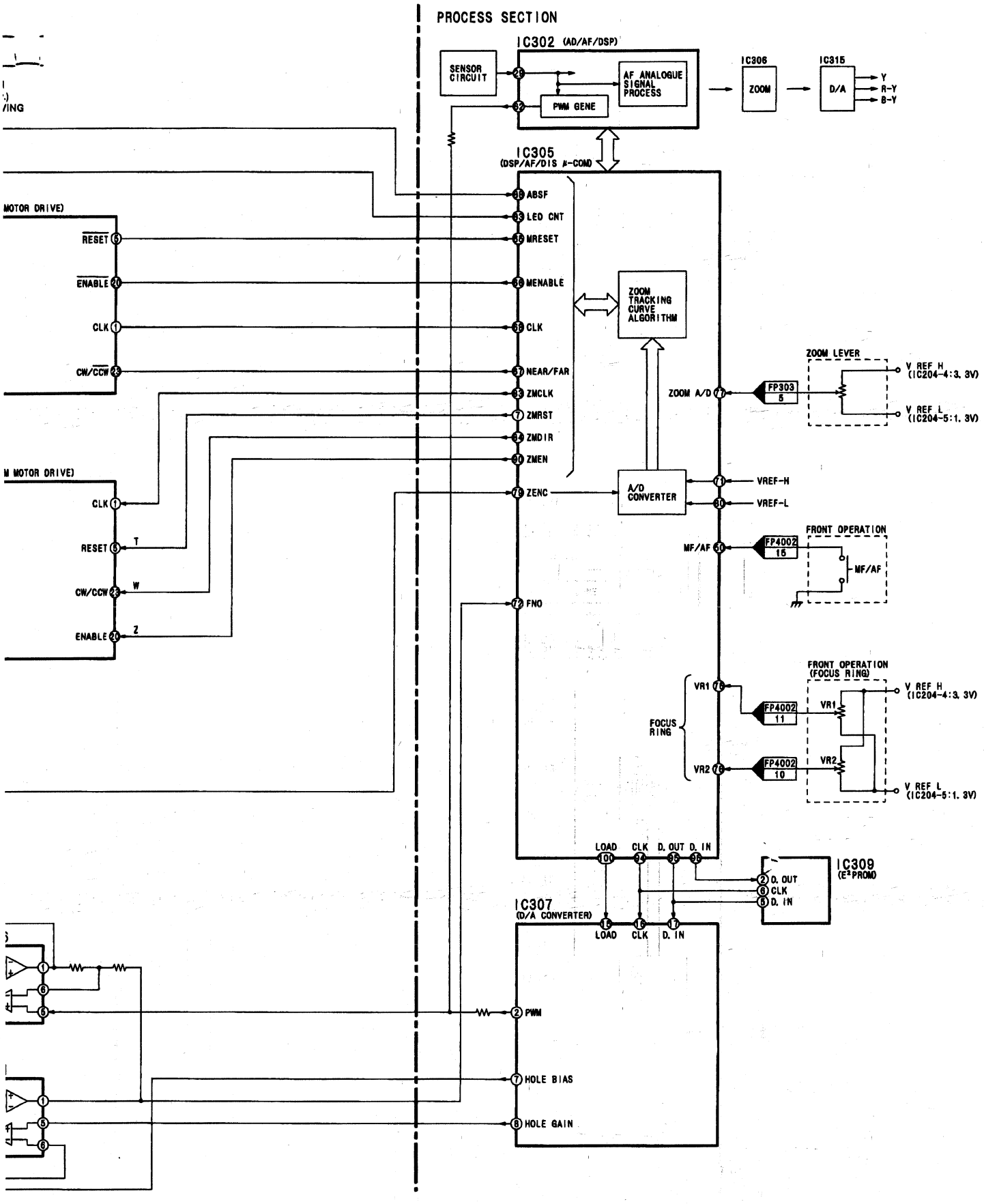

VIDEO SIGNAL
DIGITAL Y SIGNAL
DIGITAL C SIGNAL
Y SIGNAL
C SIGNA
IC306 (LSI:ELECTRIC ZOOM FOR DIS)
HIGH LIGHT LOW LIGHT APERTURE
GAIN/LEVEL ADJUSTMENT
FALSE COLOUR SUPPRESS
LUMINANCE PEAK DETECTION
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
COLOUR GAIN CONTROL
LPF
COLOUR DIFFERENTIAL MATRIX
AREA AVERAGE PIXCEL DATA DETECTION
PWM PULSE GENE.
PWM
TO LENS DRIVE
REFERENCE POINT MEMORY
MOVING DETECTION
DIS/E. ZOOM CONTROL
V. ZOOM UP
H. ZOOM UP
GAIN α
GAIN(1-α)
C. E ZOOM (SAME AS Y)
DSP MICOM INTERFACE
CLOCK
WRITE ENABLE
READ ENABLE
ADDRESS
DATA
IC201-30
IC202
SSG
HCLR
HD
VD
BLKA
BFO
SYNC
BLK
U/Y SEL
CLK
IRQ
WE
RE
IC305
(AF/DSP/DIS MICRO PROCESSOR)
IC309 (E² PROM)
CIP SELECT
SERIAL DATA
CLOCK
C. S
D. IN
D. OUT
CLK IN
LOAD
ZMCLK
ZMDIR
FNO
ZMEN
ZMRST
ABSF
RESET
ENABLE
NEAR/FAR
TO LENS DRIVE SECTION
W-SET
DATE
FADE
C. MODE 2
C. MODE 1
C. MODE 0
D. MODE 2
D. MODE 1
D. MODE 0
AF/MF
MF (VR1)
MF (VR2)
SENSOR (CCD DRIVE)
DIS OPERATION
X301 (20MHz)
OSC
OSC1
OSC2
VREF H
VREF L
IRDET
LENS DRIVE SECTION
IC751
Q751
CAM 5V
MIC SECTION
IR SENSOR


NAL ⟵ C SIGNAL
IC304 (SYNC MIX)
IC310 (REC DATA MIX)
SYNC
Y OUT
C OUT
Y
C
REC DATA
REC DATA BLAK
REC DATA MIX
CLAMP
LPF
BPF
TO LUMI/CHRO
MOVING DETECTION
DIS/E. ZOOM CONTROL
NORMAL
DIS
H. ZOOM UP
DIGITAL ENCODER
D/A
POR
NWE
WAD
RWAE
RAD
RSTR
NRE
YMF0~YMF7
CMO~4
CFMO~3
IC311 (FIELD MEMORY)
Y OUT
Y IN
FOR Y SIGNAL
DATA IN FOR C SIGNAL
DATA OUT FOR C SIGNAL
RAD WR WAD POR SWCK RAD WR WAD POR SWCK RAD WR WAD POR
RR RAWE WE SRCK RE RR RWAE WE SRCK RE RR RWAE WE
FROM IC305
IC310-8 STOP
1.0Vp-p (20μsec./div.)
COLOUR BAR
IC310-6 STOP
0.9Vp-p (20μsec./div.)
COLOUR BAR
IC307 (D/A CONVERTER)
PWM OUT FROM IC302-62
TO IC706-5
TO LENS DRIVE
TO SENSOR
LOAD PULSE
CLOCK
DATA
PWM
HOLE BIAS
HOLE GAIN
OB CONT
SUB CONT
AD CONT
AGC CONT
γ CONT
IC711-3
IC711-5
IC204-7
IC204-3
IC204-8
IC204-15
IC204-2
+5V
MIC SECTION
P501
IR SENSOR

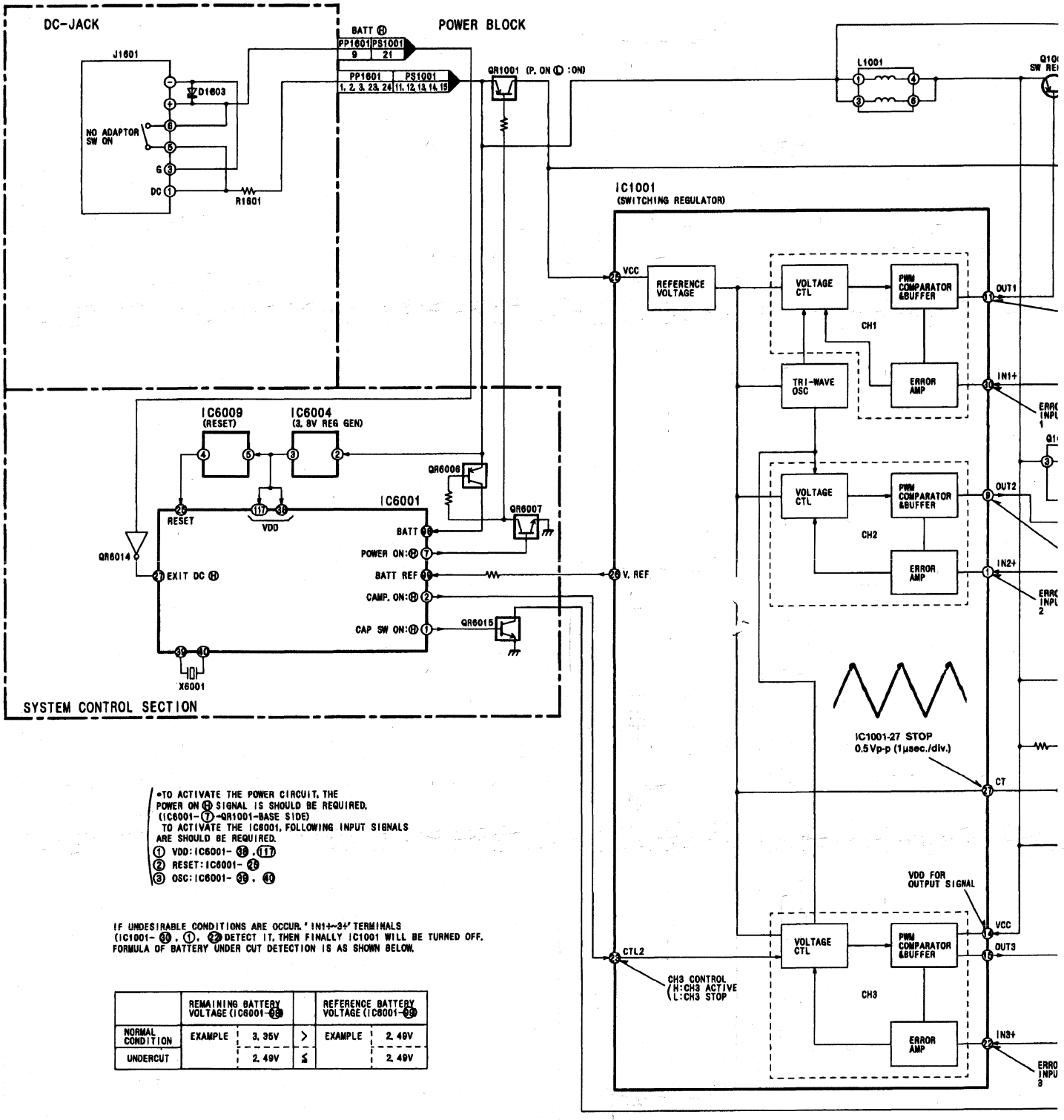
SYMBOL	TRUTH VALUE TABLE
INVERTER 	IN (a): H, L OUT (b): L, H
COMPARTOR 	IN (a)/(b): (a)>(b), (a)<(b) OUT (c): H, L
AND CIRCUIT 	IN (a): L, L, H, H IN (b): L, H, L, H OUT (c): L, L, L, H
OR CIRCUIT 	IN (a): L, L, H, H IN (b): L, H, L, H OUT (c): L, H, H, H
THREE STATES BUFFER 	IN (a): H, L, H or L IN (b): L, L, H OUT (c): H, L, ※ ※ High Impedance
TR. SW (NPN TYPE) 	BASE: H, L TR. SW: ON, OFF
TR. SW (PNP TYPE) 	BASE: H, L TR. SW: OFF, ON
R-S TYPE FLIP-FLOP 	IN (a): L, L, ⎍ IN (b): L, ⎍, L OUT (c): ※, L, H OUT (d): ◆, H, L ※ Initial condition is maintained. ◆ Initial condition is reversed.

3-4. LENS DRIVE BLOCK DIAGRAM




PROCESS SECTION
IC302 (AD/AF/DSP)
SENSOR CIRCUIT
AF ANALOGUE SIGNAL PROCESS
PWM GENE
IC306
ZOOM
IC315
D/A
Y
R-Y
B-Y
IC305
(DSP/AF/DIS μ-COM)
ABSF
LED CNT
MRESET
MENABLE
CLK
NEAR/FAR
ZMCLK
ZMRST
ZMDIR
ZMEN
ZENC
FNO
PWM
HOLE BIAS
HOLE GAIN
ZOOM TRACKING CURVE ALGORITHM
A/D CONVERTER
VREF-H
VREF-L
ZOOM A/D
ZOOM LEVER
FP303
5
V REF H
(IC204-4: 3. 3V)
V REF L
(IC204-5: 1. 3V)
MF/AF
FRONT OPERATION
FP4002
15
MF/AF
FRONT OPERATION
(FOCUS RING)
VR1
VR2
FOCUS RING
FP4002
11
FP4002
10
LOAD
CLK
D. OUT
D. IN
IC309
(E²PROM)
IC307
(D/A CONVERTER)
MOTOR DRIVE)
RESET
ENABLE
CLK
CW/CCW
M MOTOR DRIVE)
T
W
Z

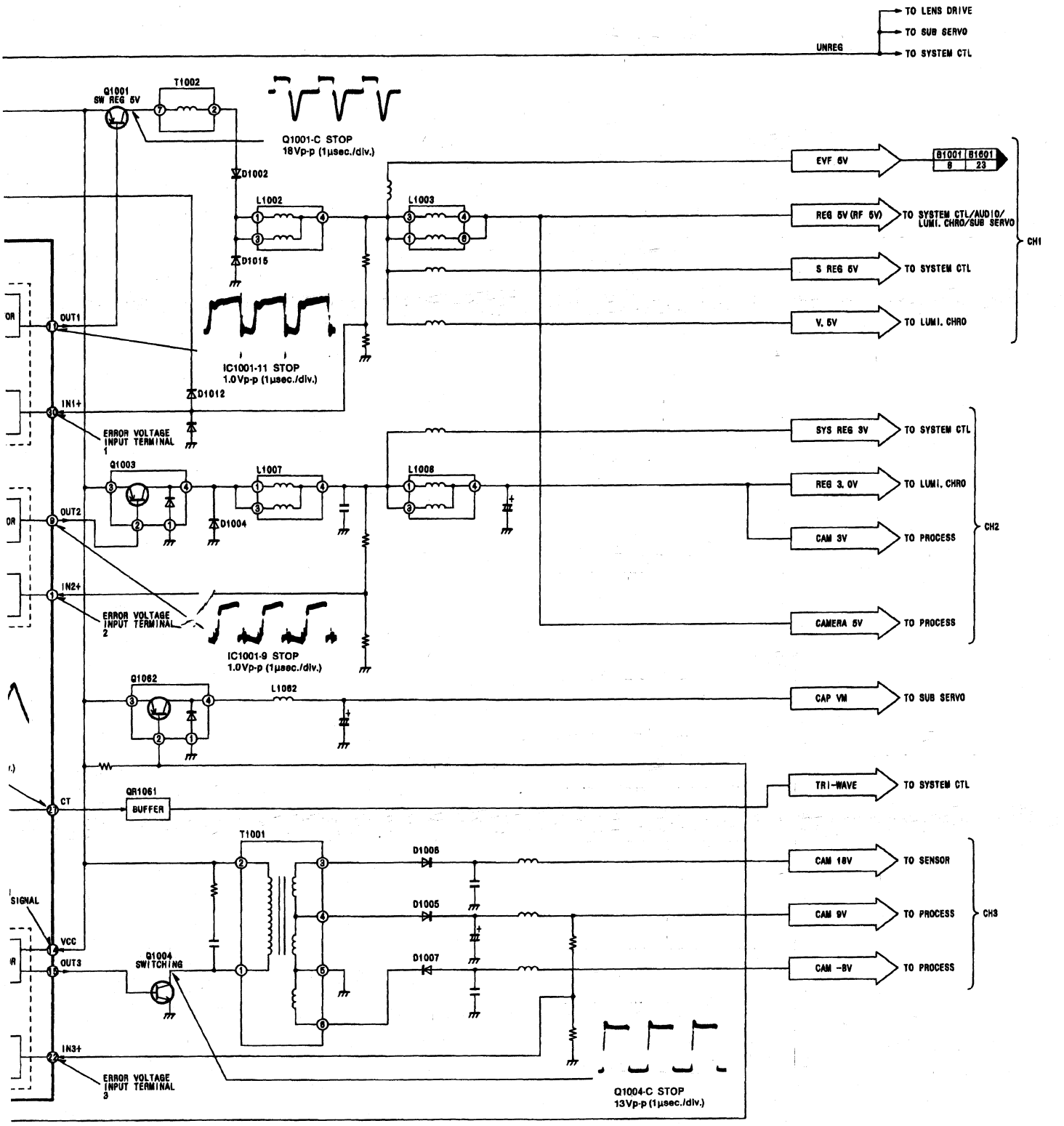
3-5. POWER BLOCK DIAGRAM



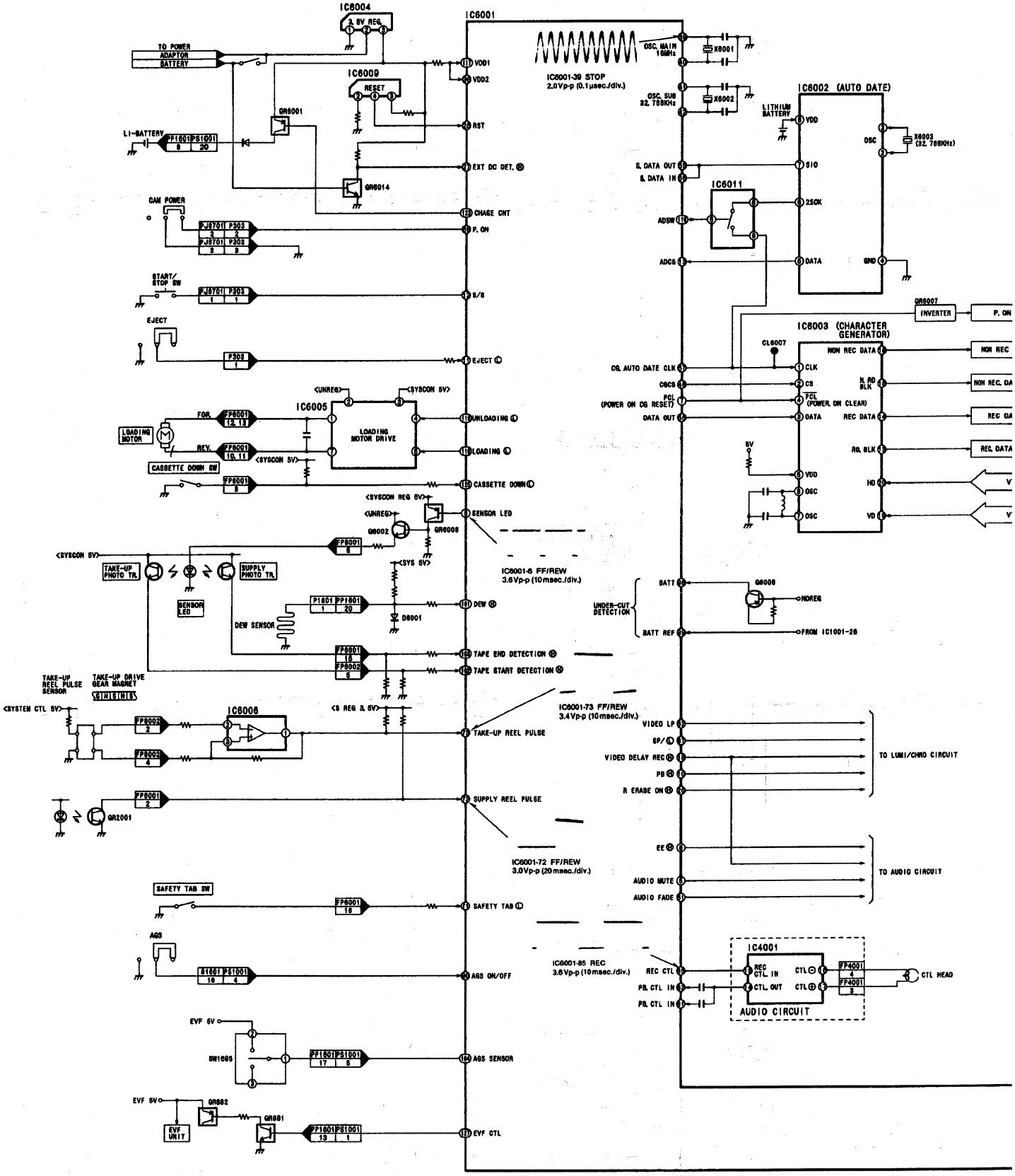
•TO ACTIVATE THE POWER CIRCUIT, THE POWER ON Ⓗ SIGNAL IS SHOULD BE REQUIRED. (IC6001-⑦-QR1001-BASE SIDE)
TO ACTIVATE THE IC6001, FOLLOWING INPUT SIGNALS ARE SHOULD BE REQUIRED.
① VDD: IC6001- ㊳, ⑰
② RESET: IC6001- ㉖
③ OSC: IC6001- ㊴, ㊵

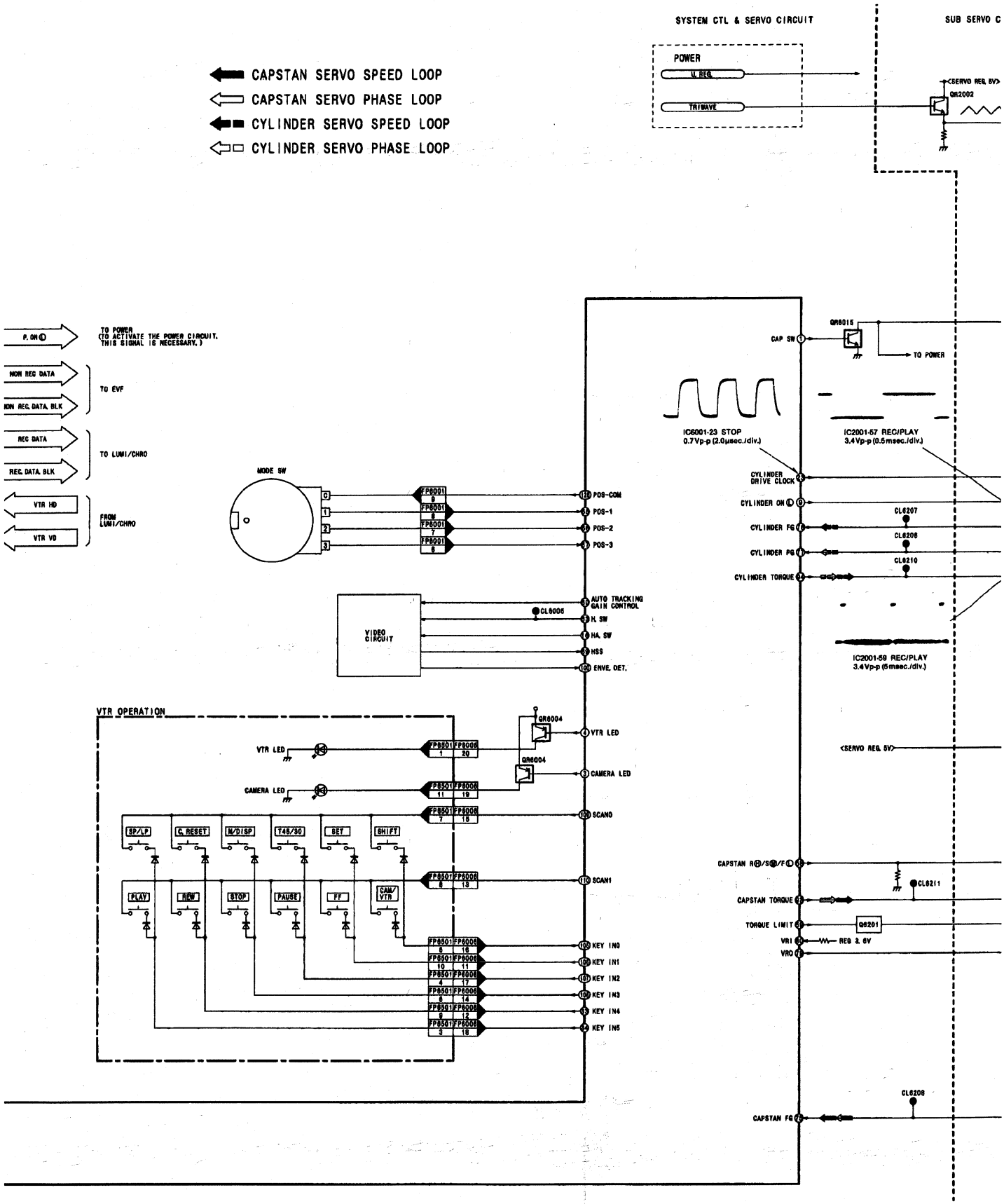
IF UNDESIRABLE CONDITIONS ARE OCCUR, 'IN1+~3+' TERMINALS (IC1001- ㉚, ①, ㉒ DETECT IT, THEN FINALLY IC1001 WILL BE TURNED OFF. FORMULA OF BATTERY UNDER CUT DETECTION IS AS SHOWN BELOW.

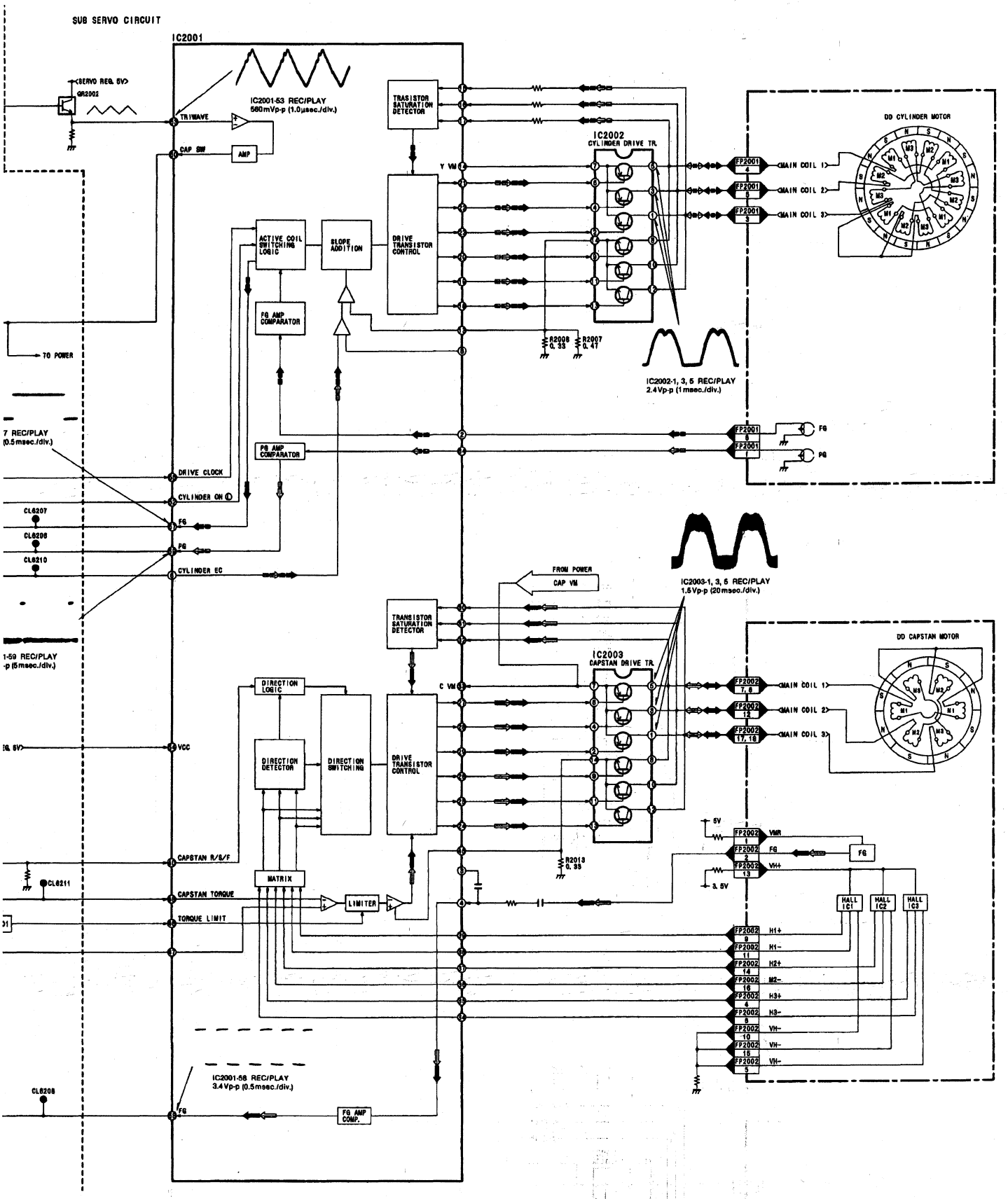
	REMAINING BATTERY VOLTAGE (IC6001-㊴)			REFERENCE BATTERY VOLTAGE (IC6001-㊵)	
NORMAL CONDITION	EXAMPLE	3. 35V	>	EXAMPLE	2. 49V
UNDERCUT		2. 49V	≦		2. 49V


UNREG
TO LENS DRIVE
TO SUB SERVO
TO SYSTEM CTL
Q1001
SW REG 5V
T1002
Q1001-C STOP
18Vp-p (1µsec./div.)
D1002
L1002
L1003
D1015
EVF 5V
B1001 B1601
6 23
REG 5V (RF 5V)
TO SYSTEM CTL/AUDIO/
LUMI. CHRO/SUB SERVO
S REG 5V
TO SYSTEM CTL
V. 5V
TO LUMI. CHRO
CH1
OUT1
IC1001-11 STOP
1.0Vp-p (1µsec./div.)
D1012
IN1+
ERROR VOLTAGE
INPUT TERMINAL
1
SYS REG 3V
TO SYSTEM CTL
REG 3.0V
TO LUMI. CHRO
CAM 3V
TO PROCESS
CH2
Q1003
L1007
L1008
D1004
OUT2
IN2+
ERROR VOLTAGE
INPUT TERMINAL
2
CAMERA 5V
TO PROCESS
IC1001-9 STOP
1.0Vp-p (1µsec./div.)
Q1062
L1062
CAP VM
TO SUB SERVO
CT
QR1061
BUFFER
TRI-WAVE
TO SYSTEM CTL
T1001
D1006
D1005
D1007
CAM 18V
TO SENSOR
CAM 9V
TO PROCESS
CAM -8V
TO PROCESS
CH3
SIGNAL
VCC
OUT3
Q1004
SWITCHING
IN3+
ERROR VOLTAGE
INPUT TERMINAL
3
Q1004-C STOP
13Vp-p (1µsec./div.)

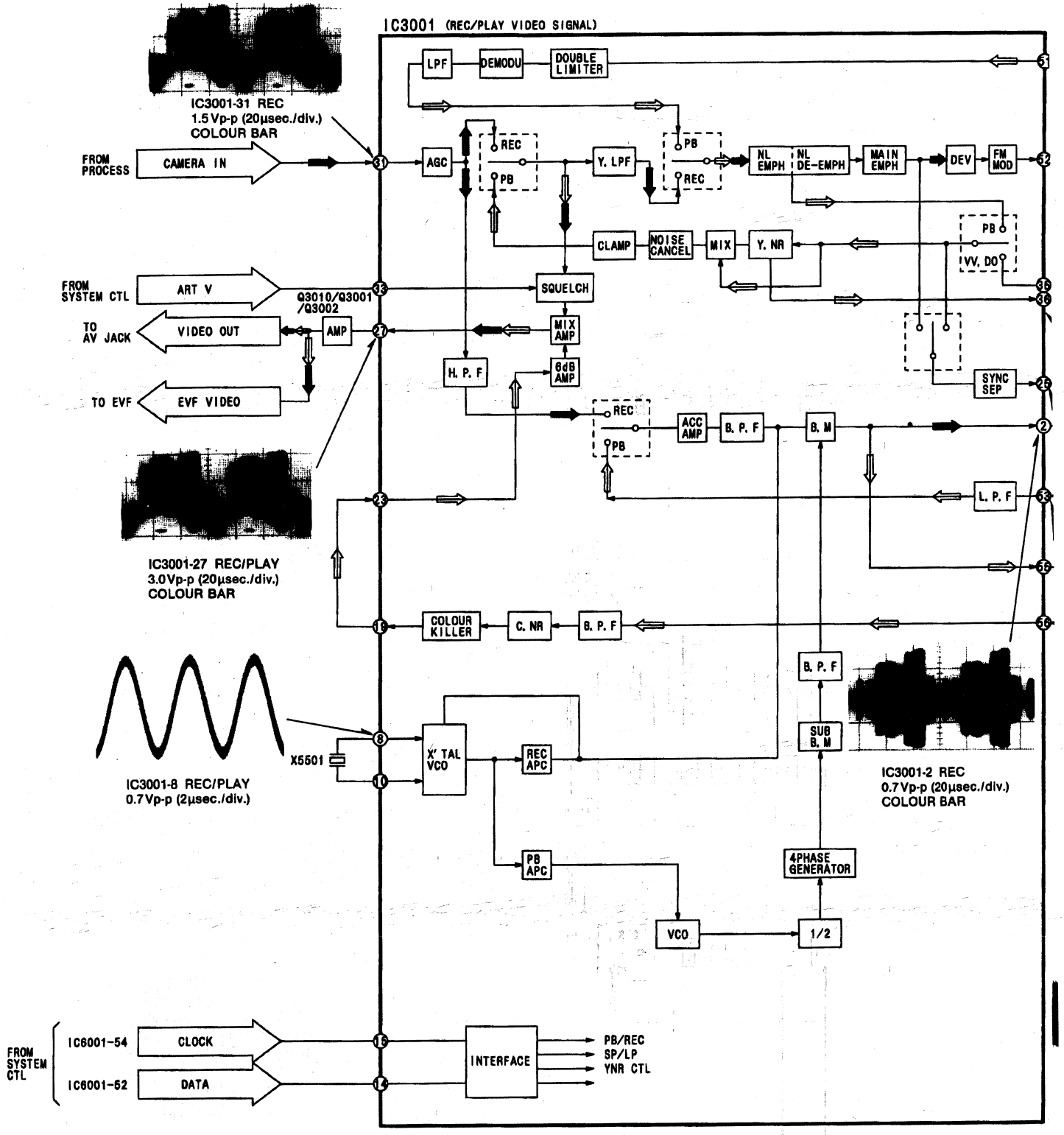
3-6. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

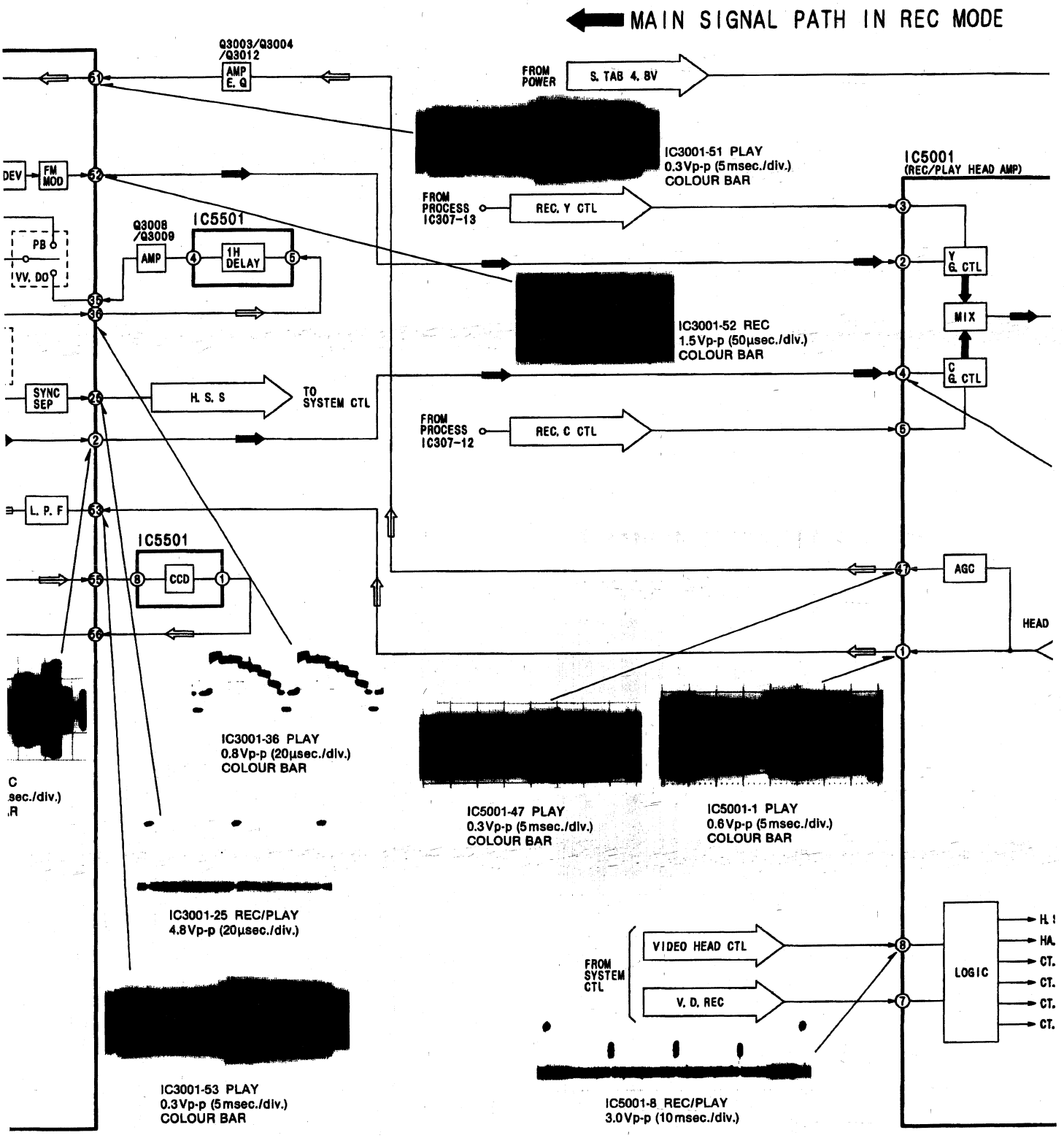



CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
SYSTEM CTL & SERVO CIRCUIT
SUB SERVO C
POWER
V. REG
TRIWAVE
<SERVO REG 5V>
QR2002
P. ON
TO POWER
(TO ACTIVATE THE POWER CIRCUIT. THIS SIGNAL IS NECESSARY.)
NON REC DATA
NON REC DATA BLK
TO EVF
REC DATA
REC DATA BLK
TO LUMI/CHRO
VTR HD
VTR VD
FROM LUMI/CHRO
MODE SW
POS-COM
POS-1
POS-2
POS-3
VIDEO CIRCUIT
CL6005
AUTO TRACKING GAIN CONTROL
H. SW
HA. SW
HSS
ENVE. DET.
QR8015
CAP SW
TO POWER
IC6001-23 STOP
0.7Vp-p (2.0μsec./div.)
IC2001-57 REC/PLAY
3.4Vp-p (0.5msec./div.)
CYLINDER DRIVE CLOCK
CYLINDER ON
CYLINDER FG
CYLINDER PG
CYLINDER TORQUE
CL6207
CL6208
CL6210
IC2001-58 REC/PLAY
3.4Vp-p (5msec./div.)
VTR OPERATION
VTR LED
CAMERA LED
QR6004
QR6004
VTR LED
CAMERA LED
SCAN0
SCAN1
SP/LP
C. RESET
M/DISP
T45/90
SET
SHIFT
PLAY
REW
STOP
PAUSE
FF
CAM/VTR
KEY IN0
KEY IN1
KEY IN2
KEY IN3
KEY IN4
KEY IN5
<SERVO REG 5V>
CAPSTAN FG/SG/FG
CAPSTAN TORQUE
TORQUE LIMIT
VRI
VRO
CL6211
Q6201
REG 3.6V
CL6209
CAPSTAN FG

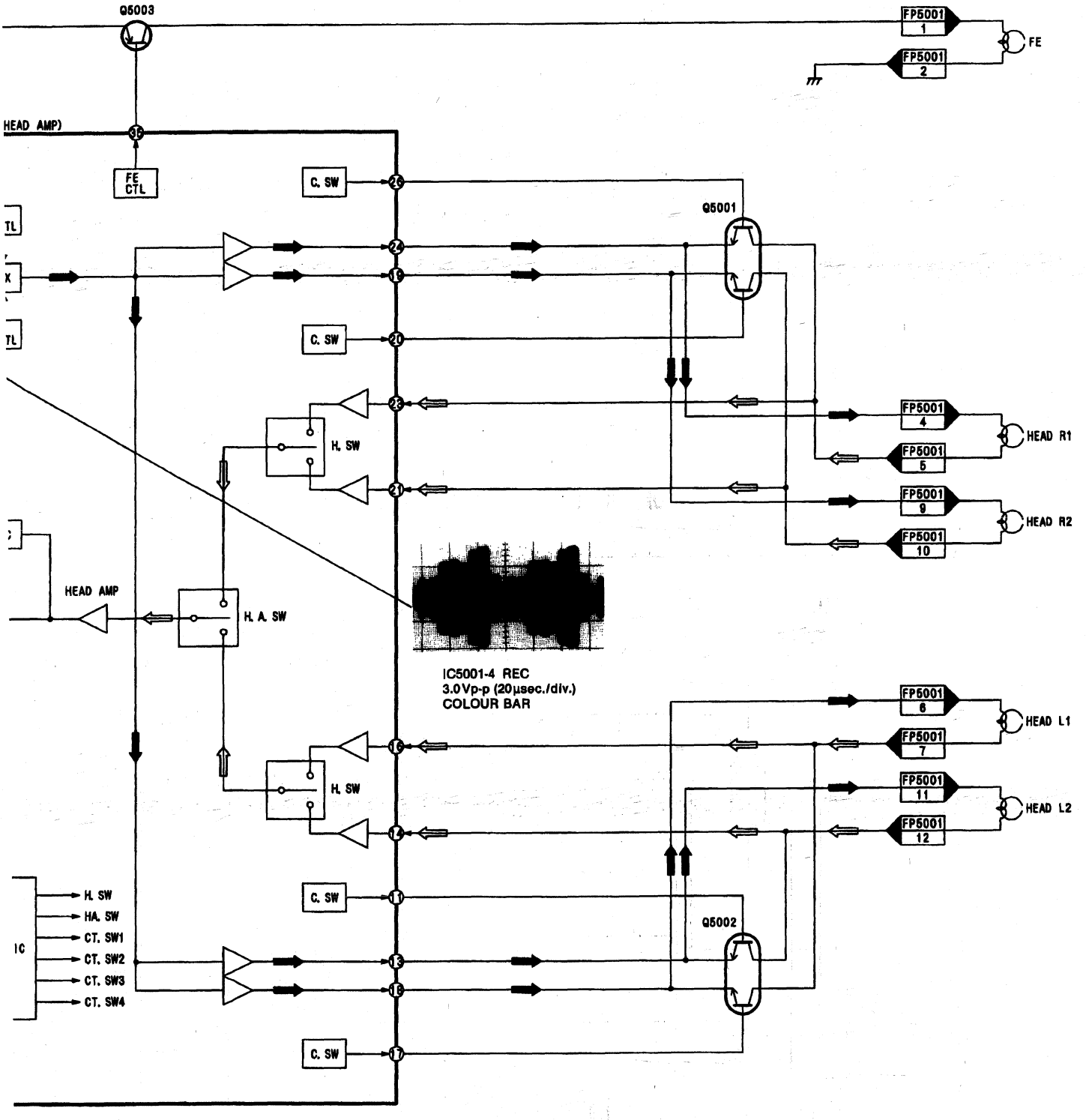

SUB SERVO CIRCUIT
IC2001
<SERVO REG. 5V>
GR2002
TRIWAVE
CAP SW
AMP
IC2001-53 REC/PLAY
560mVp-p (1.0μsec./div.)
TRASISTOR SATURATION DETECTOR
IC2002
CYLINDER DRIVE TR.
DD CYLINDER MOTOR
Y VM
FP2001
MAIN COIL 1
MAIN COIL 2
MAIN COIL 3
ACTIVE COIL SWITCHING LOGIC
SLOPE ADDITION
DRIVE TRANSISTOR CONTROL
FG AMP COMPARATOR
PG AMP COMPARATOR
R2008 0.33
R2007 0.47
IC2002-1, 3, 5 REC/PLAY
2.4Vp-p (1msec./div.)
TO POWER
FG
PG
DRIVE CLOCK
CYLINDER ON
CYLINDER EC
CL6207
CL6209
CL6210
FROM POWER
CAP VM
IC2003-1, 3, 5 REC/PLAY
1.5Vp-p (20msec./div.)
TRANSISTOR SATURATION DETECTOR
IC2003
CAPSTAN DRIVE TR.
DD CAPSTAN MOTOR
C VM
DIRECTION LOGIC
DIRECTION DETECTOR
DIRECTION SWITCHING
DRIVE TRANSISTOR CONTROL
VCC
CAPSTAN R/S/F
CL6211
CAPSTAN TORQUE
TORQUE LIMIT
MATRIX
LIMITER
R2018 0.39
5V
3.5V
VMR
VH+
HALL IC1
HALL IC2
HALL IC3
H1+
H1-
H2+
H2-
H3+
H3-
VH-
IC2001-58 REC/PLAY
3.4Vp-p (0.5msec./div.)
CL6208
FG AMP COMP.

3-7. LUMINANCE/CHROMINANCE & HEAD AMP BLOCK DIAGRAM

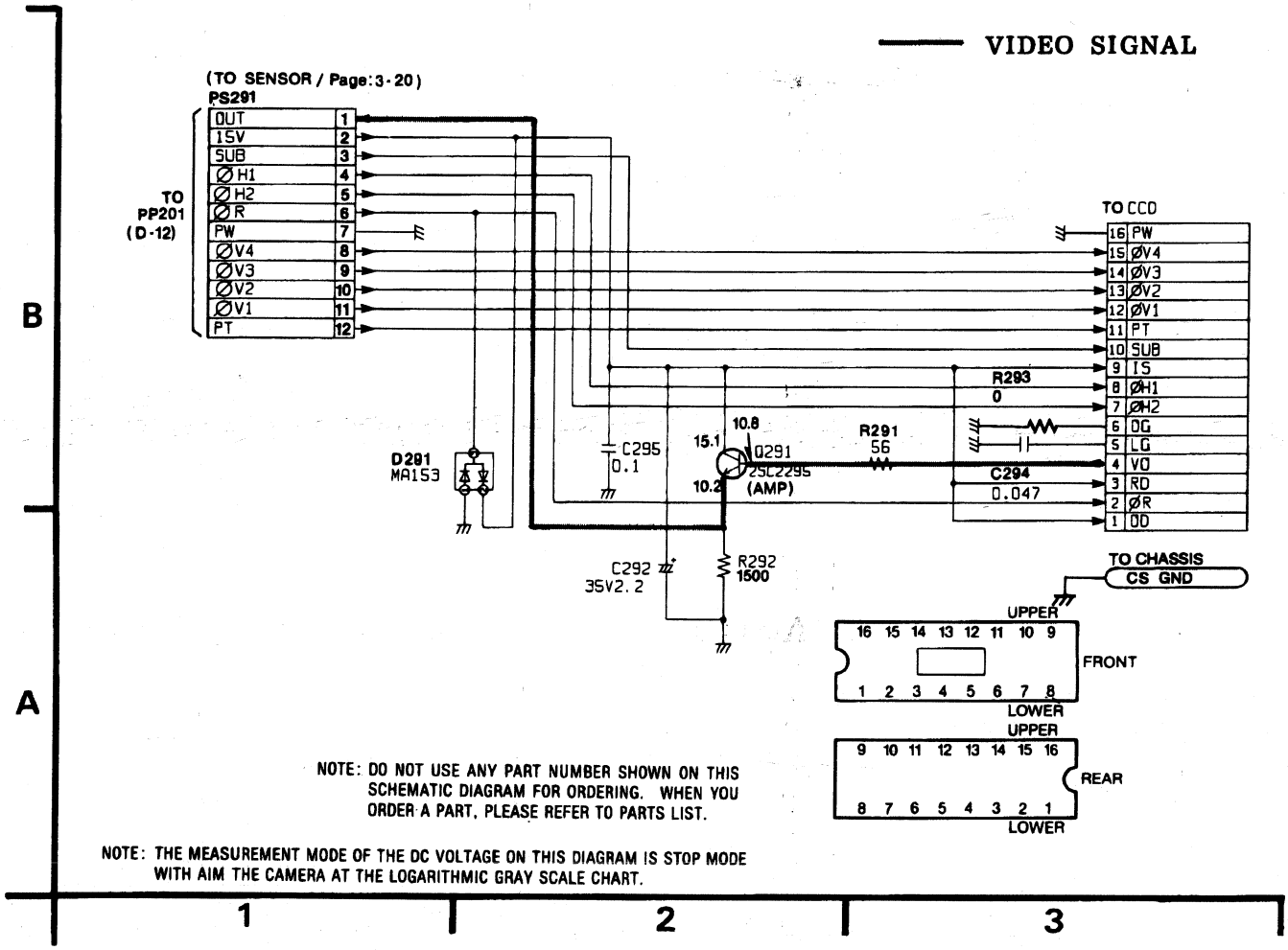



MAIN SIGNAL PATH IN REC MODE
Q3003/Q3004
/Q3012
AMP
E. Q
FROM
POWER
S. TAB 4. 8V
IC3001-51 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
IC5001
(REC/PLAY HEAD AMP)
DEV
FM
MOD
FROM
PROCESS
IC307-13
REC. Y CTL
Q3008
/Q3009
IC5501
AMP
1H
DELAY
PB
VV. DO
Y
G. CTL
MIX
C
G. CTL
IC3001-52 REC
1.5Vp-p (50µsec./div.)
COLOUR BAR
SYNC
SEP
H. S. S
TO
SYSTEM CTL
FROM
PROCESS
IC307-12
REC. C CTL
L. P. F
IC5501
CCD
AGC
HEAD
IC3001-36 PLAY
0.8Vp-p (20µsec./div.)
COLOUR BAR
IC5001-47 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
IC5001-1 PLAY
0.6Vp-p (5msec./div.)
COLOUR BAR
IC3001-25 REC/PLAY
4.8Vp-p (20µsec./div.)
FROM
SYSTEM
CTL
VIDEO HEAD CTL
V. D. REC
LOGIC
IC3001-53 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
IC5001-8 REC/PLAY
3.0Vp-p (10msec./div.)

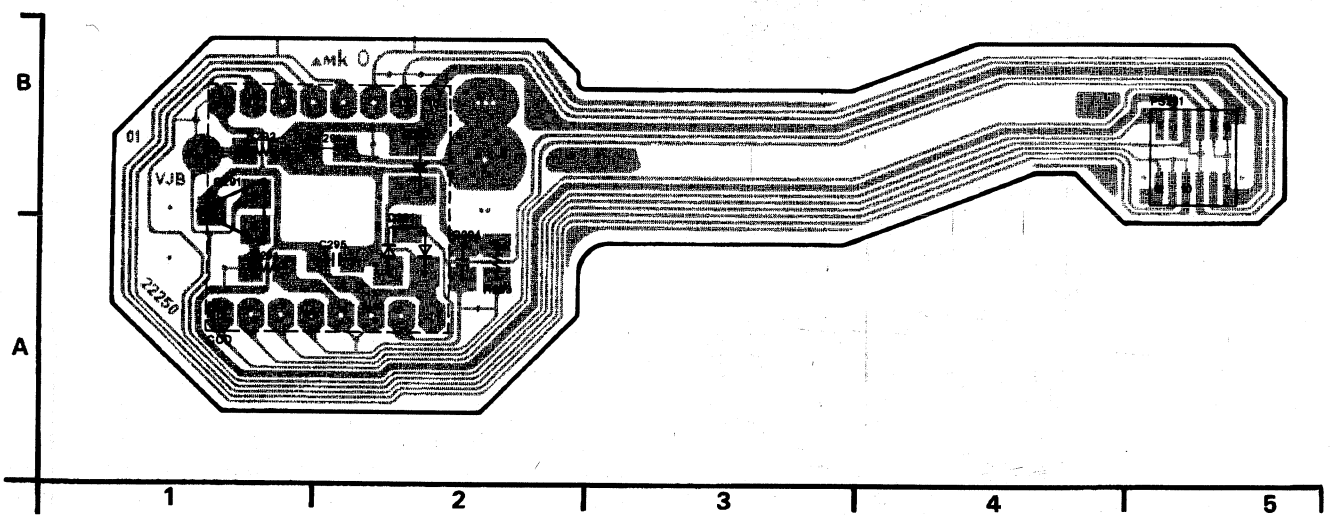
ODE ⇦ MAIN SIGNAL PATH IN PLAYBACK MODE



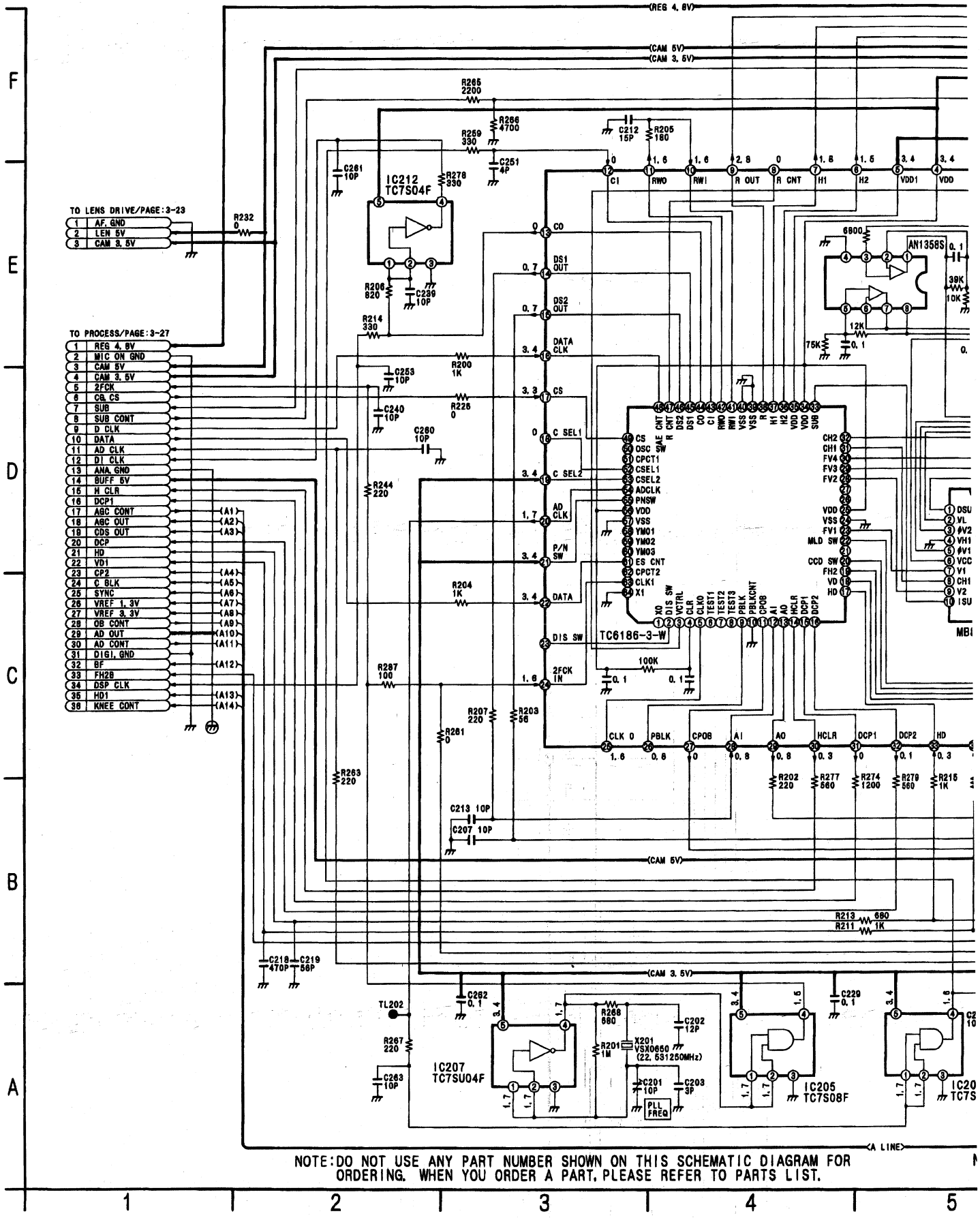
3-8. CCD FLEXIBLE CARD SCHEMATIC DIAGRAM

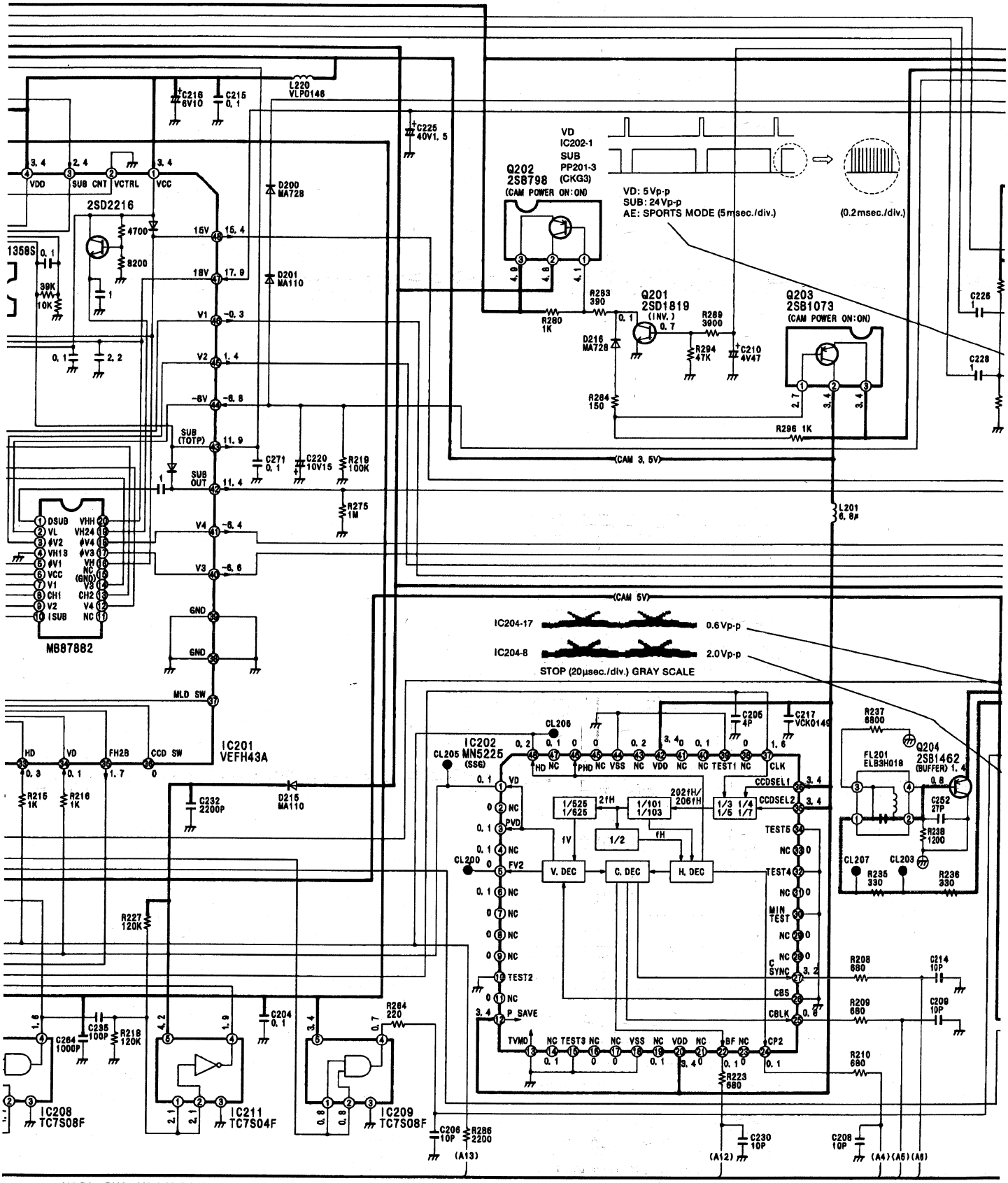


3-9. CCD FLEXIBLE CARD C.B.A. (VEP22250B)



3-10. SENSOR SCHEMATIC DIAGRAM

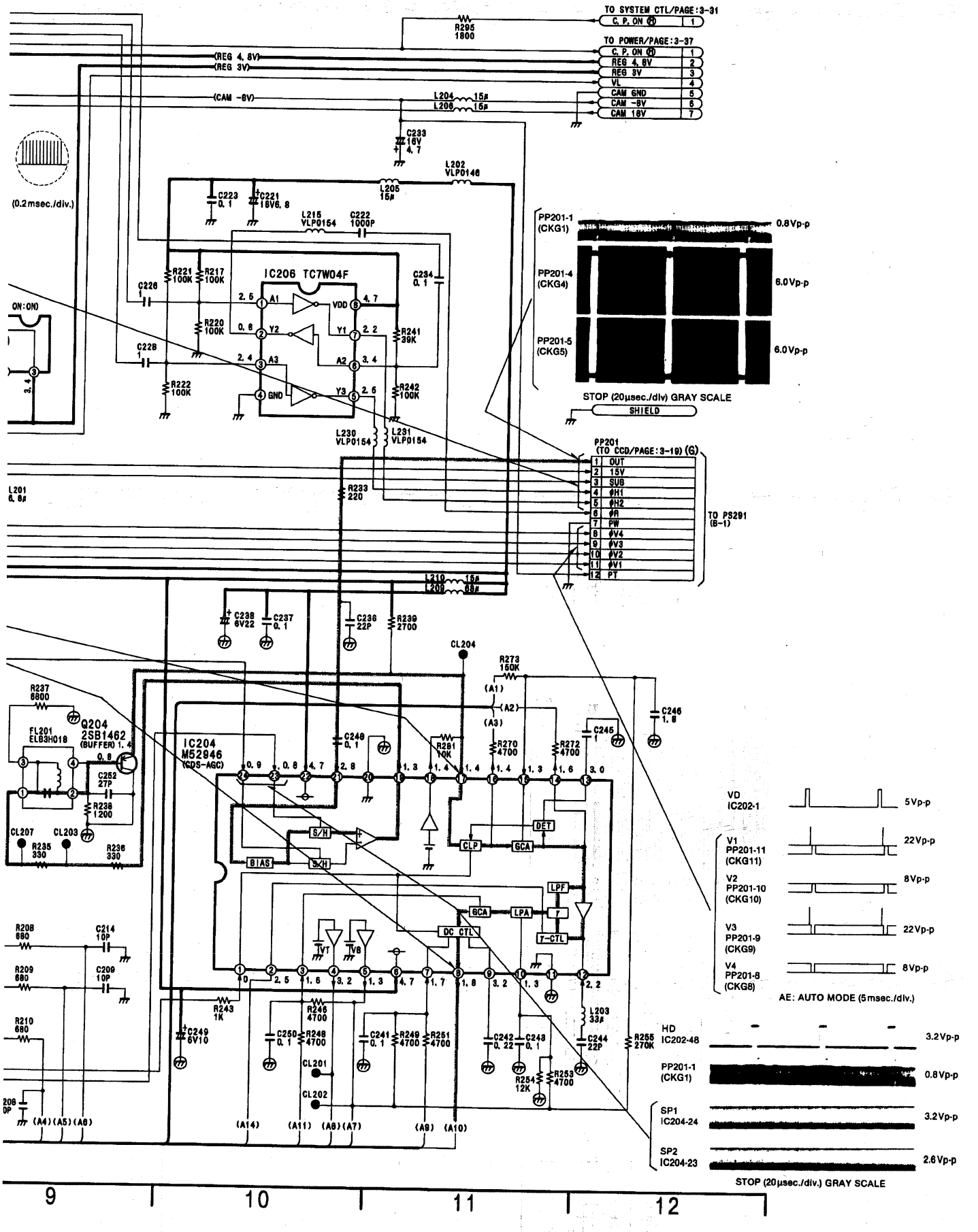




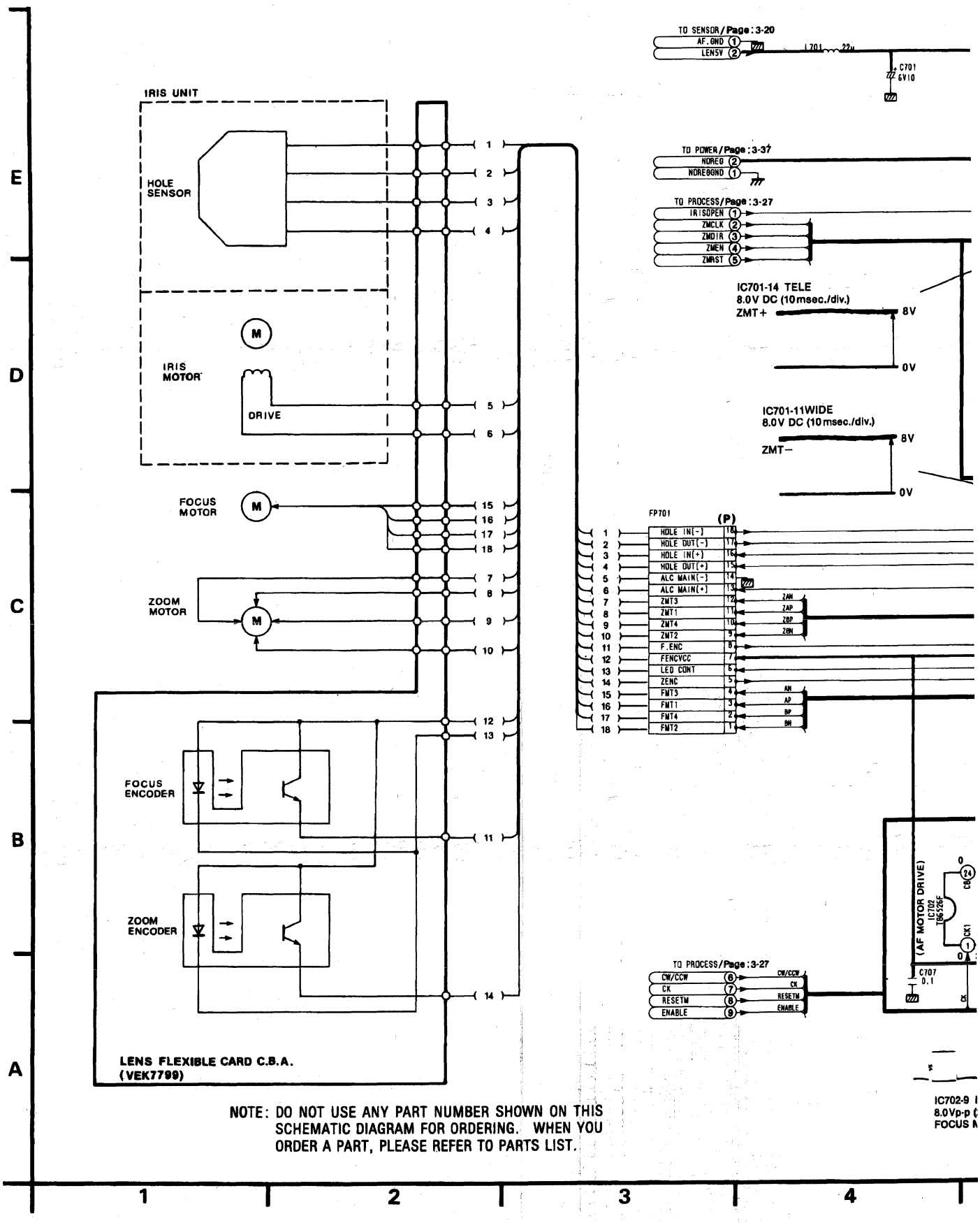
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

5 6 7 8 9

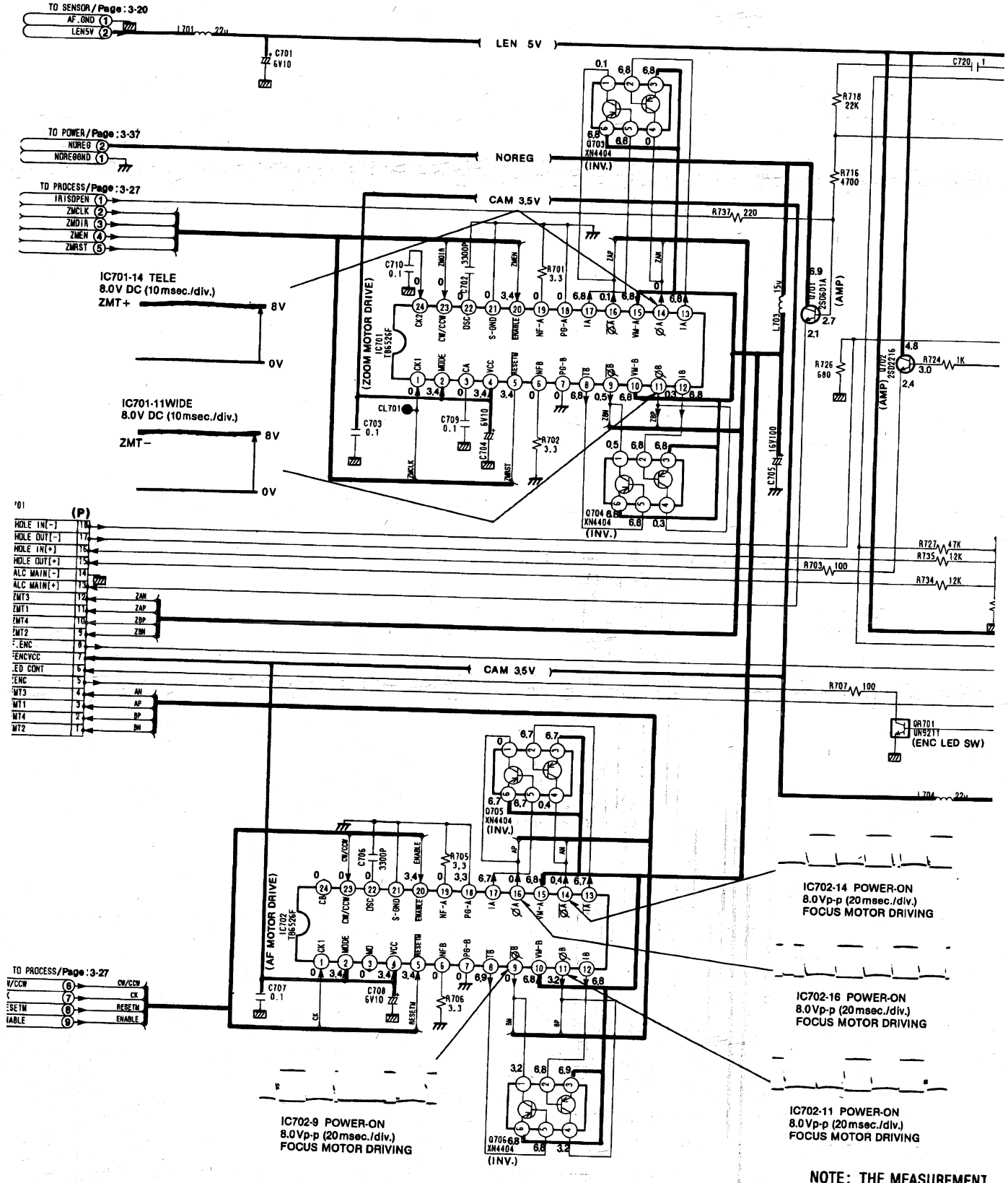
VIDEO SIGNAL

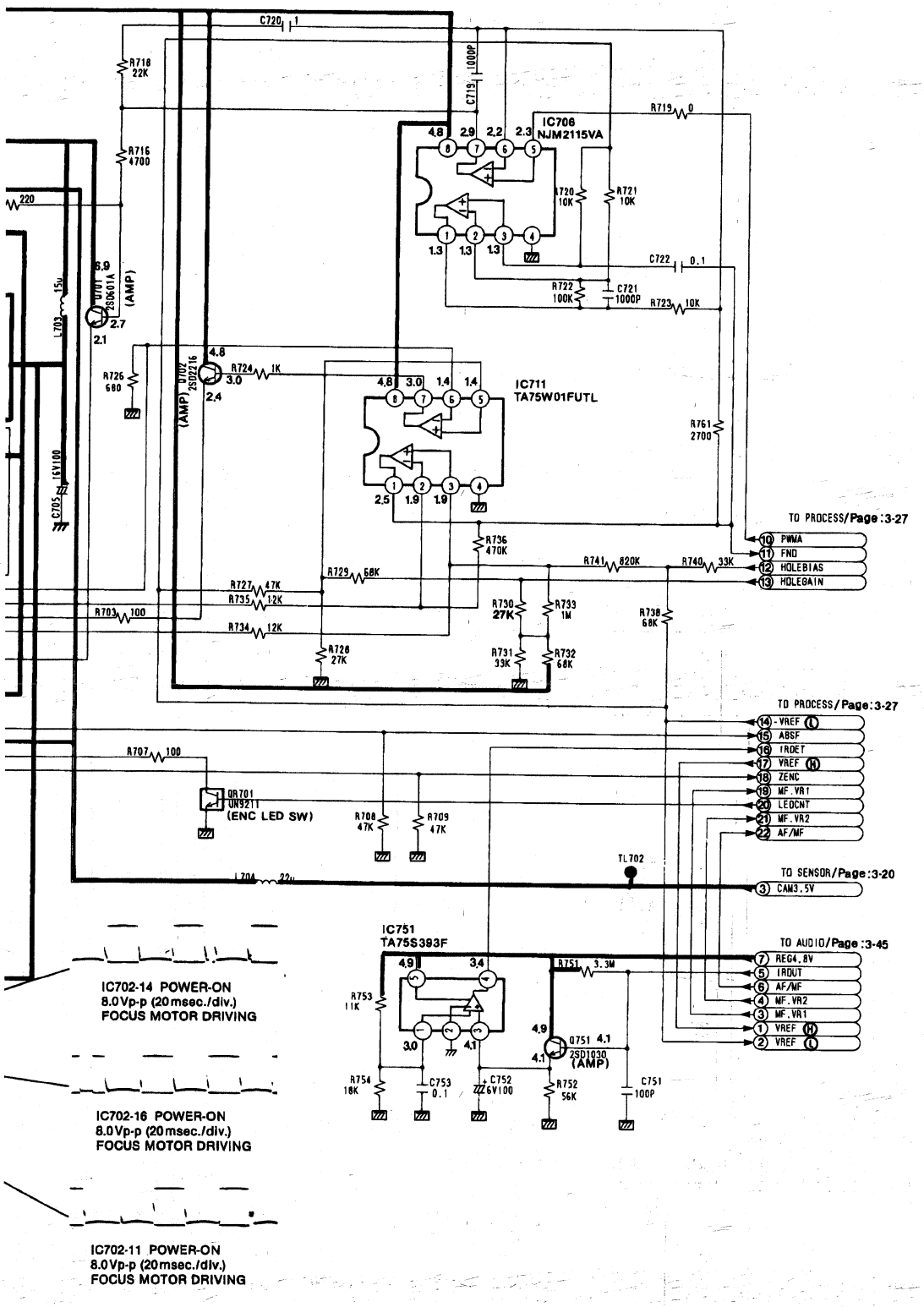


3-11. LENS DRIVE SCHEMATIC DIAGRAM



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


TO SENSOR/Page:3-20
AF.GND
LENSV
L701 22u
C701 6V10
LEN 5V
TO POWER/Page:3-37
NOREG
NOREGGND
NOREG
TO PROCESS/Page:3-27
IRISOPEN
ZMCLK
ZMDIR
ZMEN
ZMRST
CAM 3.5V
IC701-14 TELE
8.0V DC (10msec./div.)
ZMT+
8V
0V
IC701-11WIDE
8.0V DC (10msec./div.)
ZMT-
8V
0V
(ZOOM MOTOR DRIVE)
IC701 TB6526F
Q703 XN4404 (INV.)
Q704 XN4404 (INV.)
Q701 2SD601A (AMP)
Q702 2SD2216 (AMP)
R737 220
R718 22K
R716 4700
R726 680
R724 1K
R727 47K
R735 12K
R734 12K
R703 100
R707 100
C720
L703 15u
C705 16V100
CL701
C703 0.1
C709 0.1
C704 6V10
C710 0.1
C702 3300P
R701 3.3
R702 3.3
(P)
HOLE IN[-]
HOLE OUT[-]
HOLE IN[+]
HOLE OUT[+]
ALC MAIN[-]
ALC MAIN[+]
ZMT3
ZMT1
ZMT4
ZMT2
F.ENC
FENCVCC
LED CONT
FENC
MT3
MT1
MT4
MT2
ZAM
ZAP
ZBP
ZBM
AM
AP
BP
BM
CAM 3.5V
QR701 UN9211 (ENC LED SW)
L704 22u
(AF MOTOR DRIVE)
IC702 TB6526F
Q705 XN4404 (INV.)
Q706 XN4404 (INV.)
C706 3300P
R705 3.3
C707 0.1
C708 6V10
R706 3.3
TO PROCESS/Page:3-27
W/CCW
CK
RESETM
ENABLE
CW/CCW
CK
RESETM
ENABLE
IC702-14 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-16 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-9 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-11 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
NOTE: THE MEASUREMENT
WITH AIM THE CAM
4
5
6
7

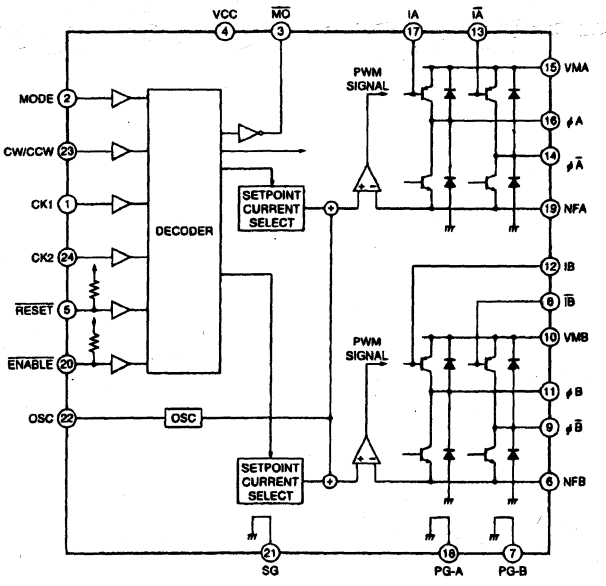


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

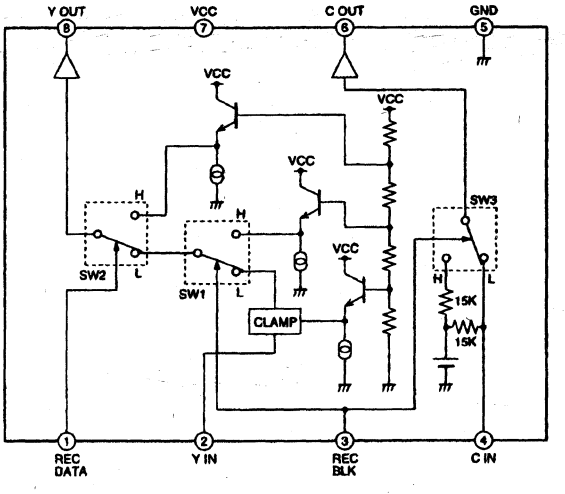
7 8 9

IC BLOCK

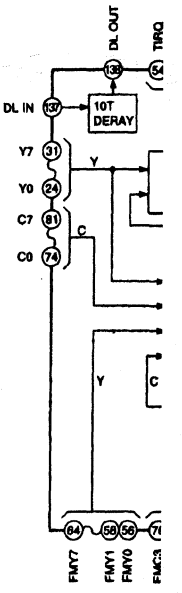
IC701, 702 (TB6512AF)
(LOCATION: D-5, B-5)



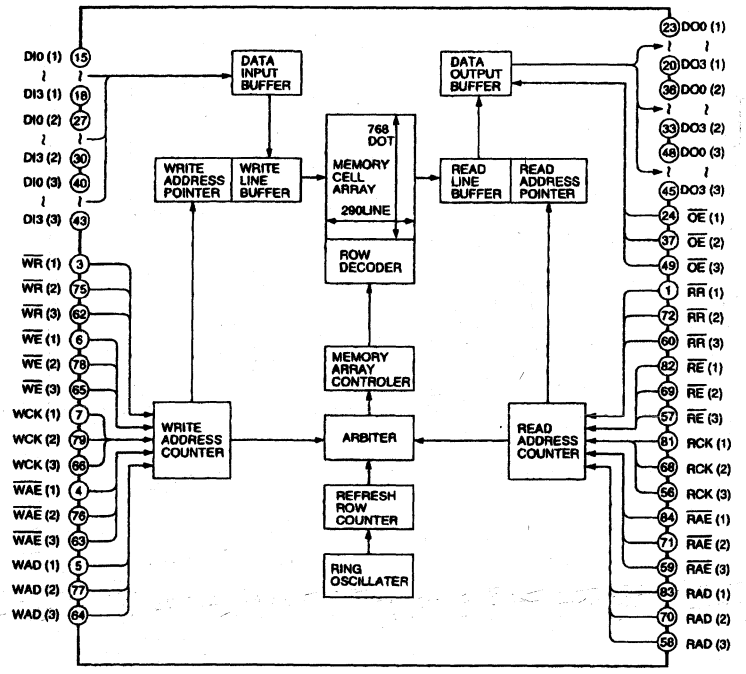
IC310 (MM1166AFBE)
(LOCATION: F-15)



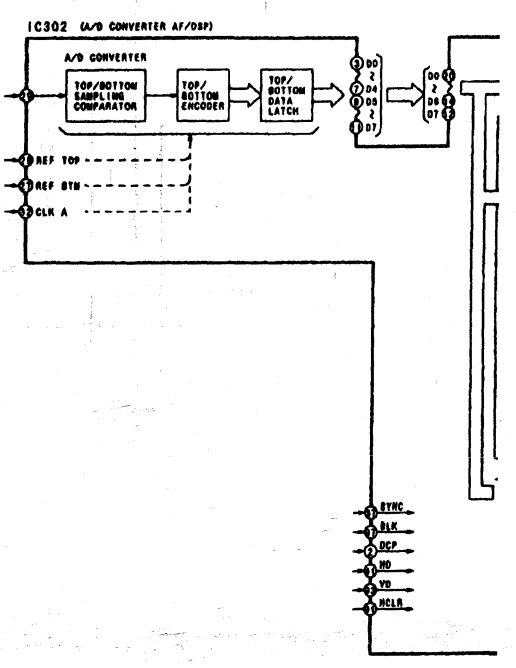
IC306 (MN673
(LOCATION:



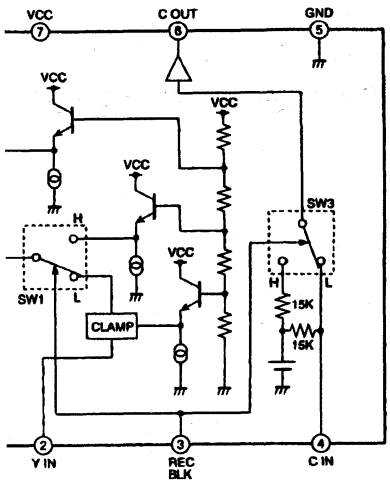
IC311 (MN4792FBP)
(LOCATION: G-8)



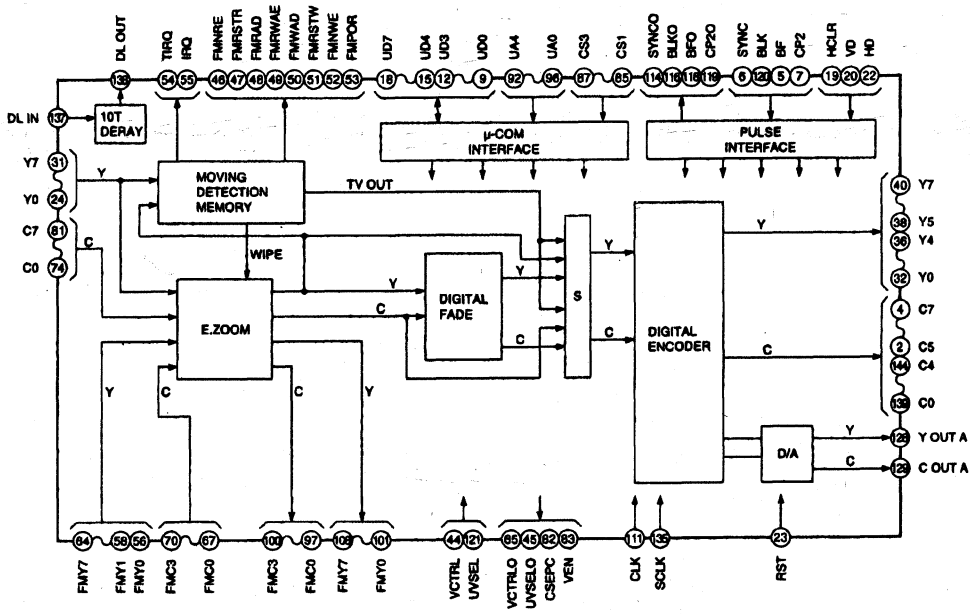
IC302 (MN67323)
(LOCATION: F-4)



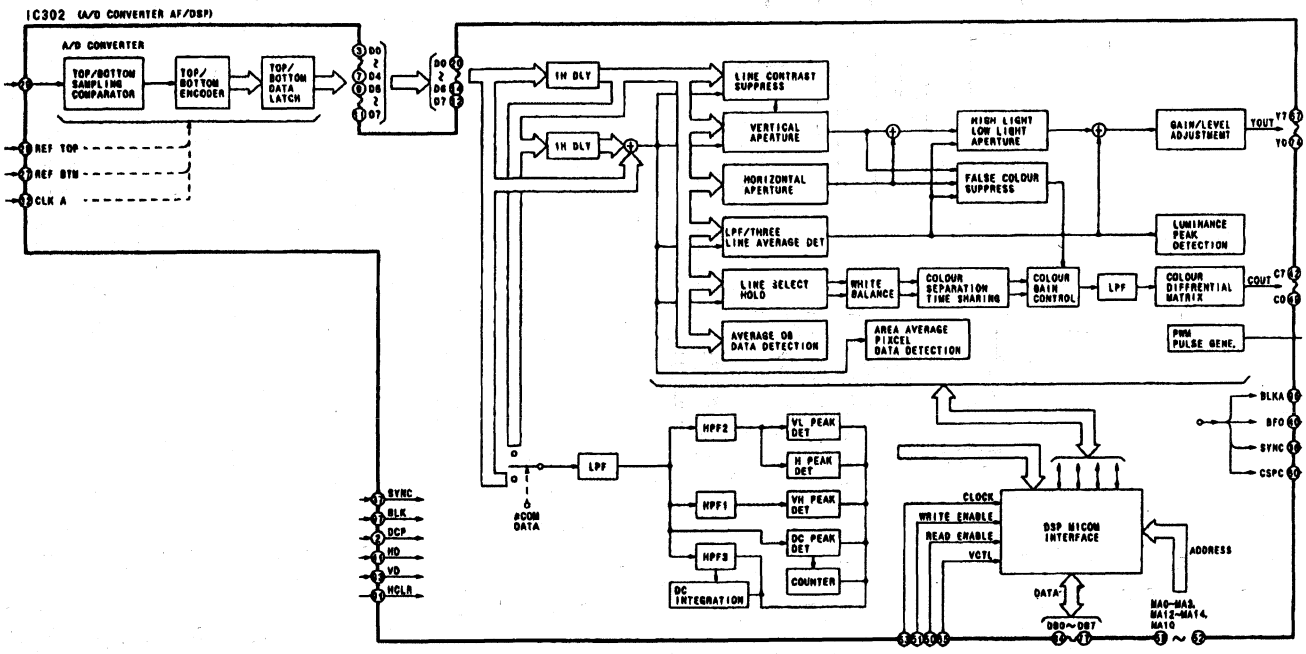
36AFBE)
F-15)



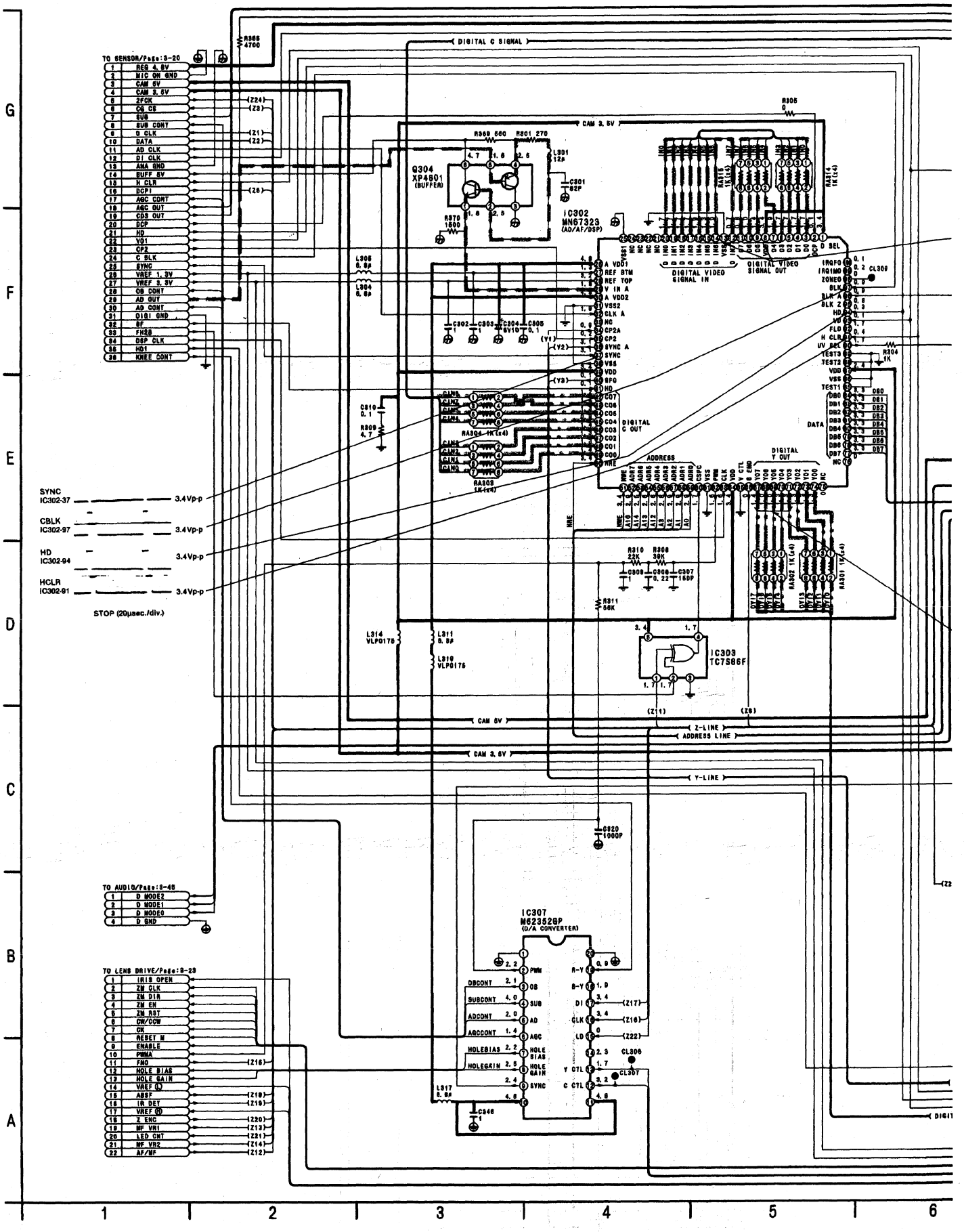
IC306 (MN67355)
(LOCATION: D-7)

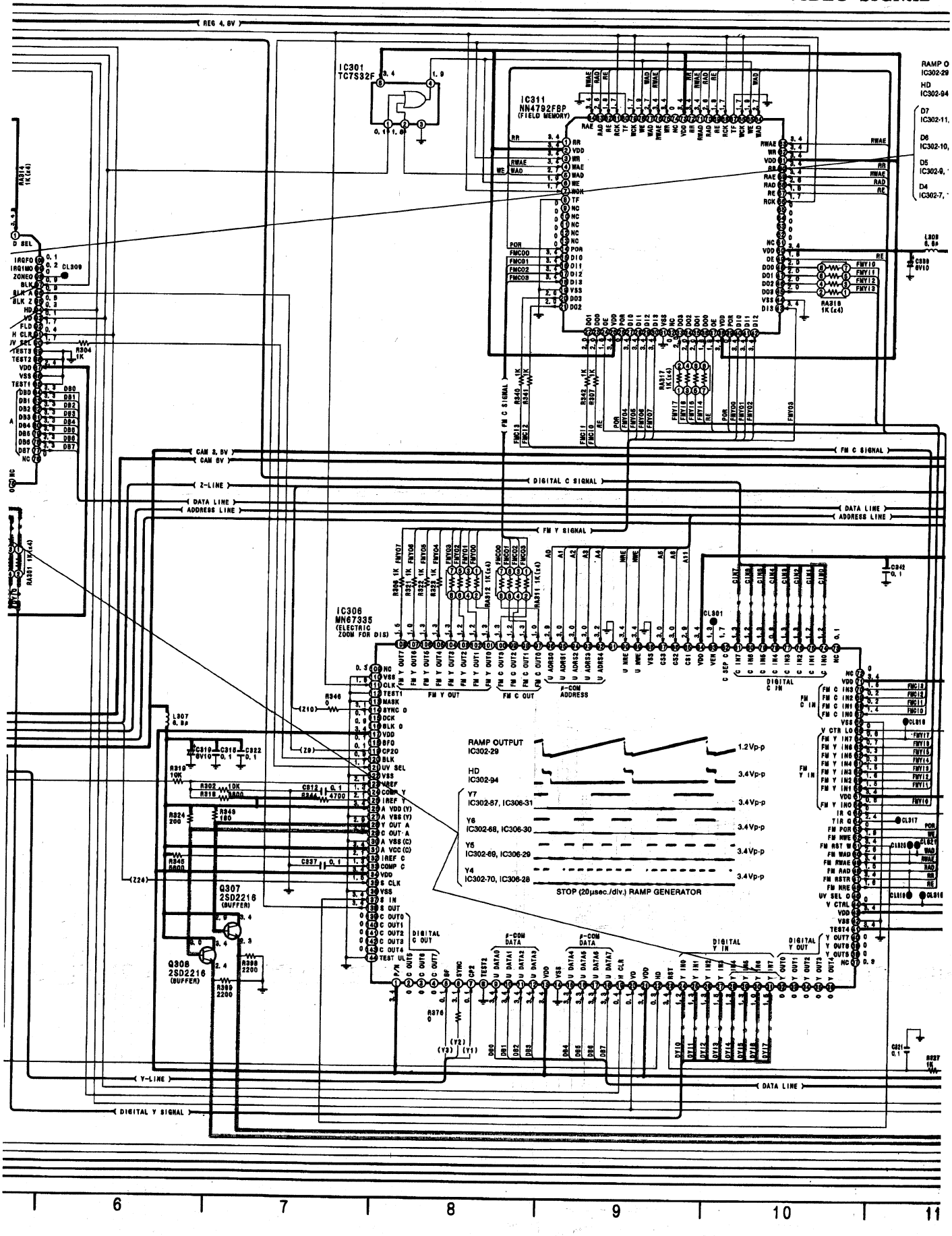


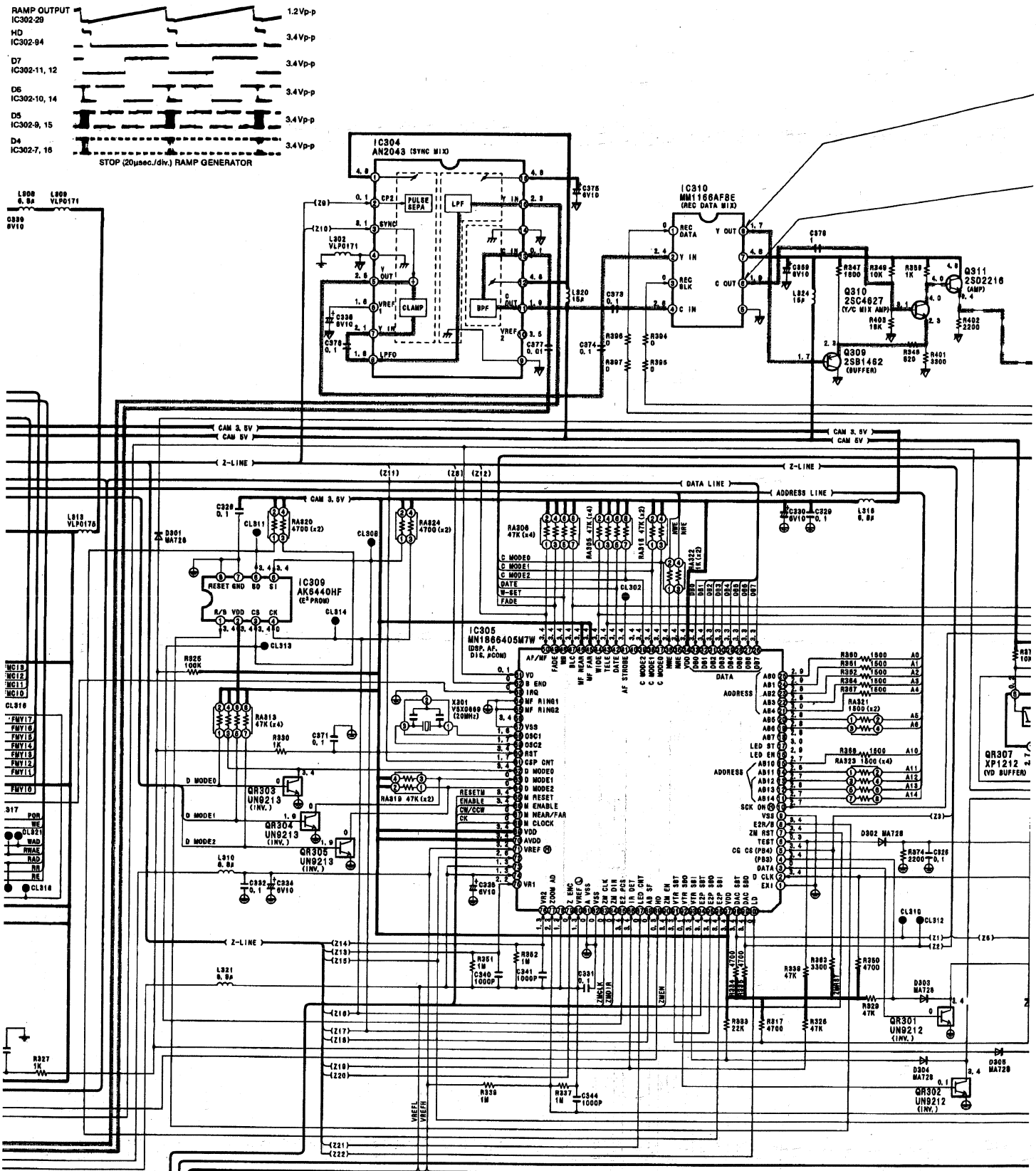
IC302 (MN67323)
(LOCATION: F-4)



3-12. PROCESS SCHEMATIC DIAGRAM



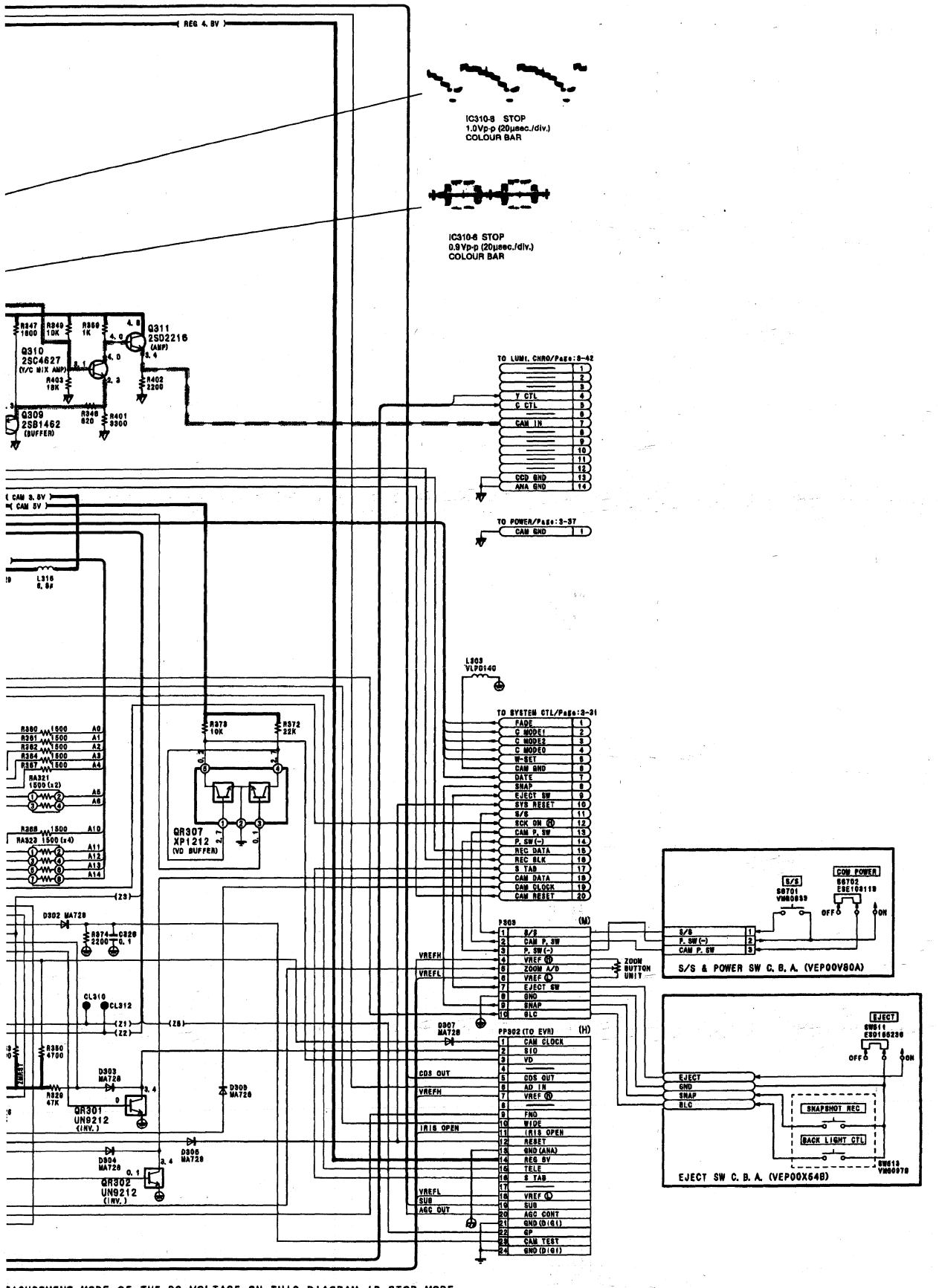

IC301
TC7S32F
IC311
NN4792FBP
(FIELD MEMORY)
IC306
MN67335
(ELECTRIC
ZOOM FOR DIS)
Q307
2SD2216
(BUFFER)
Q308
2SD2216
(BUFFER)
RAMP OUTPUT
IC302-29
1.2Vp-p
HD
IC302-94
3.4Vp-p
Y7
IC302-67, IC306-31
3.4Vp-p
Y6
IC302-68, IC306-30
3.4Vp-p
Y5
IC302-69, IC306-29
3.4Vp-p
Y4
IC302-70, IC306-28
3.4Vp-p
STOP (20μsec./div.) RAMP GENERATOR
REG 4.8V
CAM 2.8V
CAM 8V
Z-LINE
DATA LINE
ADDRESS LINE
FM Y SIGNAL
FM C SIGNAL
DIGITAL C SIGNAL
DIGITAL Y SIGNAL
Y-LINE
DIGITAL C OUT
DIGITAL C IN
DIGITAL Y IN
DIGITAL Y OUT
FM Y OUT
FM C OUT
FM C IN
FM Y IN
μ-COM ADDRESS
μ-COM DATA



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

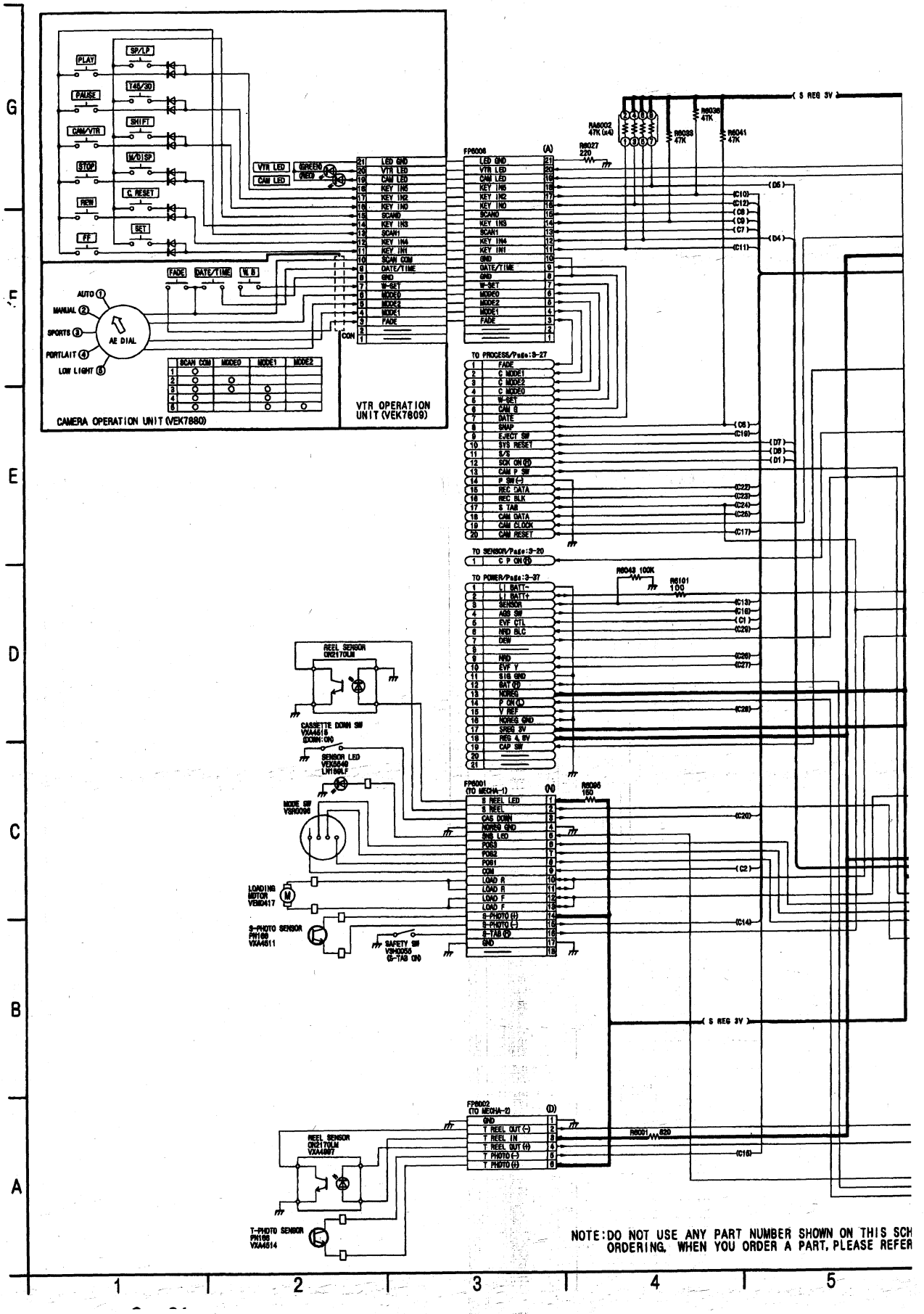
NOTE: THE MEASUREMENT MODE OF THE DC VOLTA WITH AIM THE CAMERA AT THE LOGARITHM

— Y SIGNAL ——— C SIGNAL



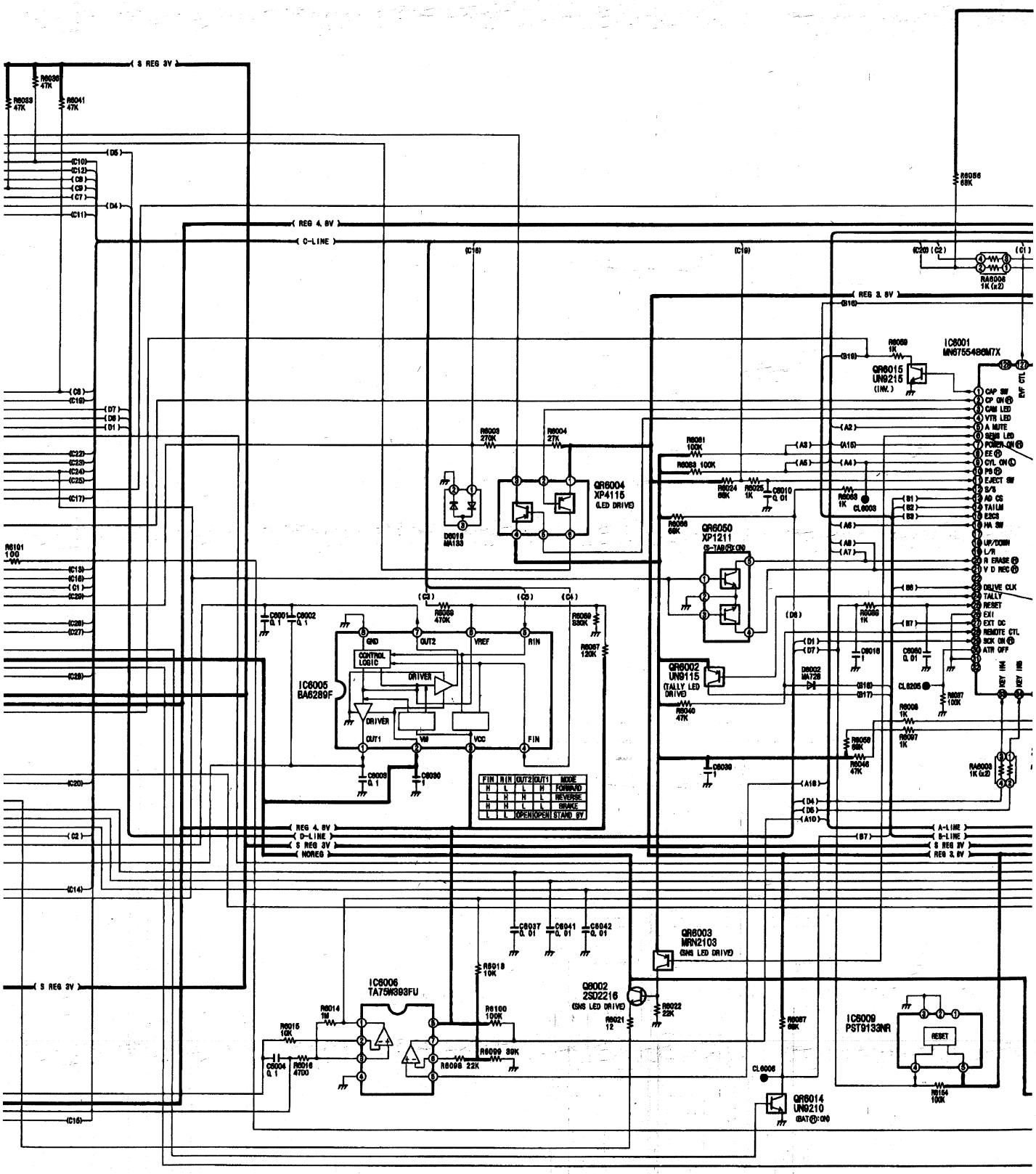
EASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

3-13. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM



DIAGRAM

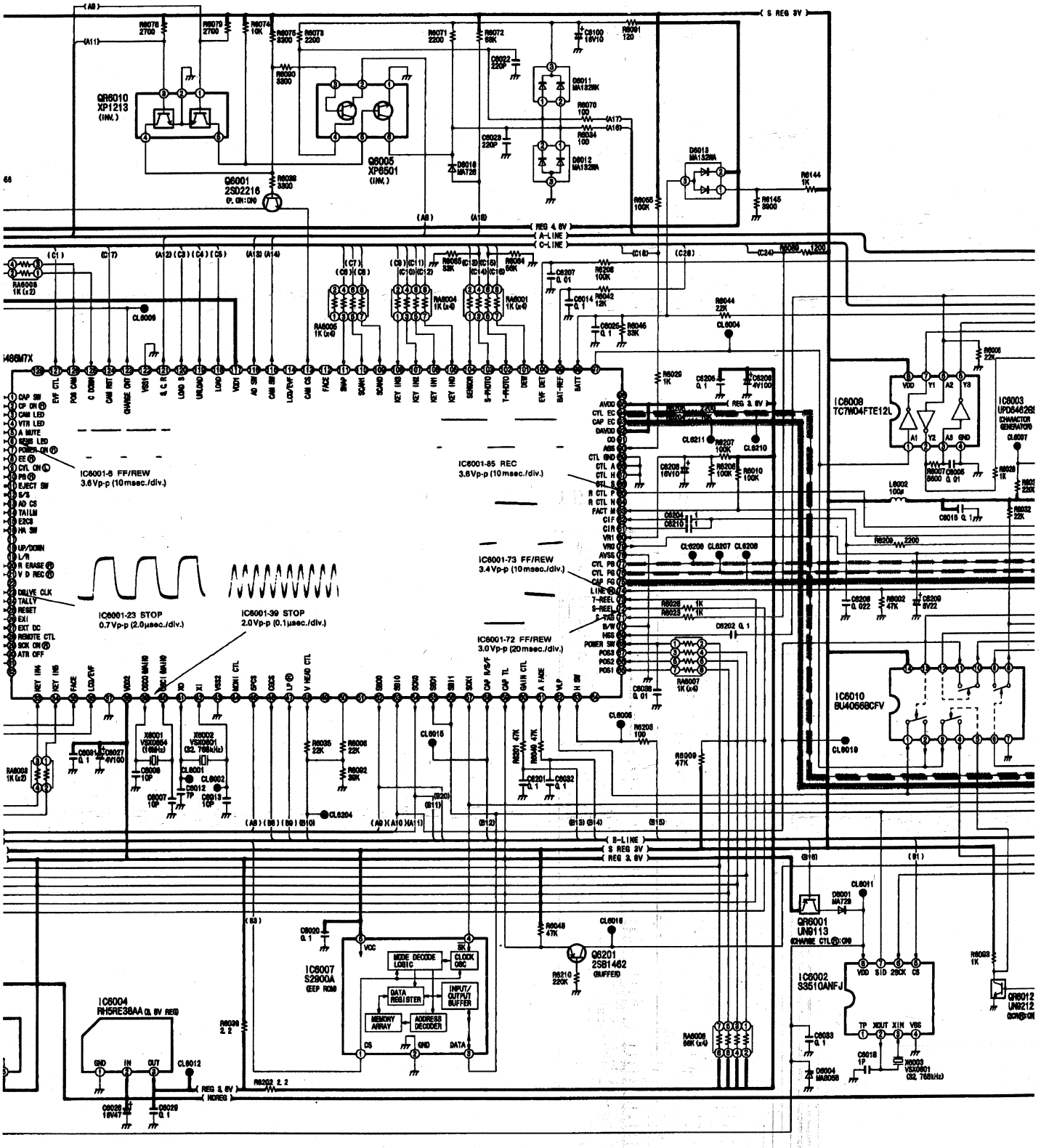
CAPSTAN SERVO



E ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR
WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

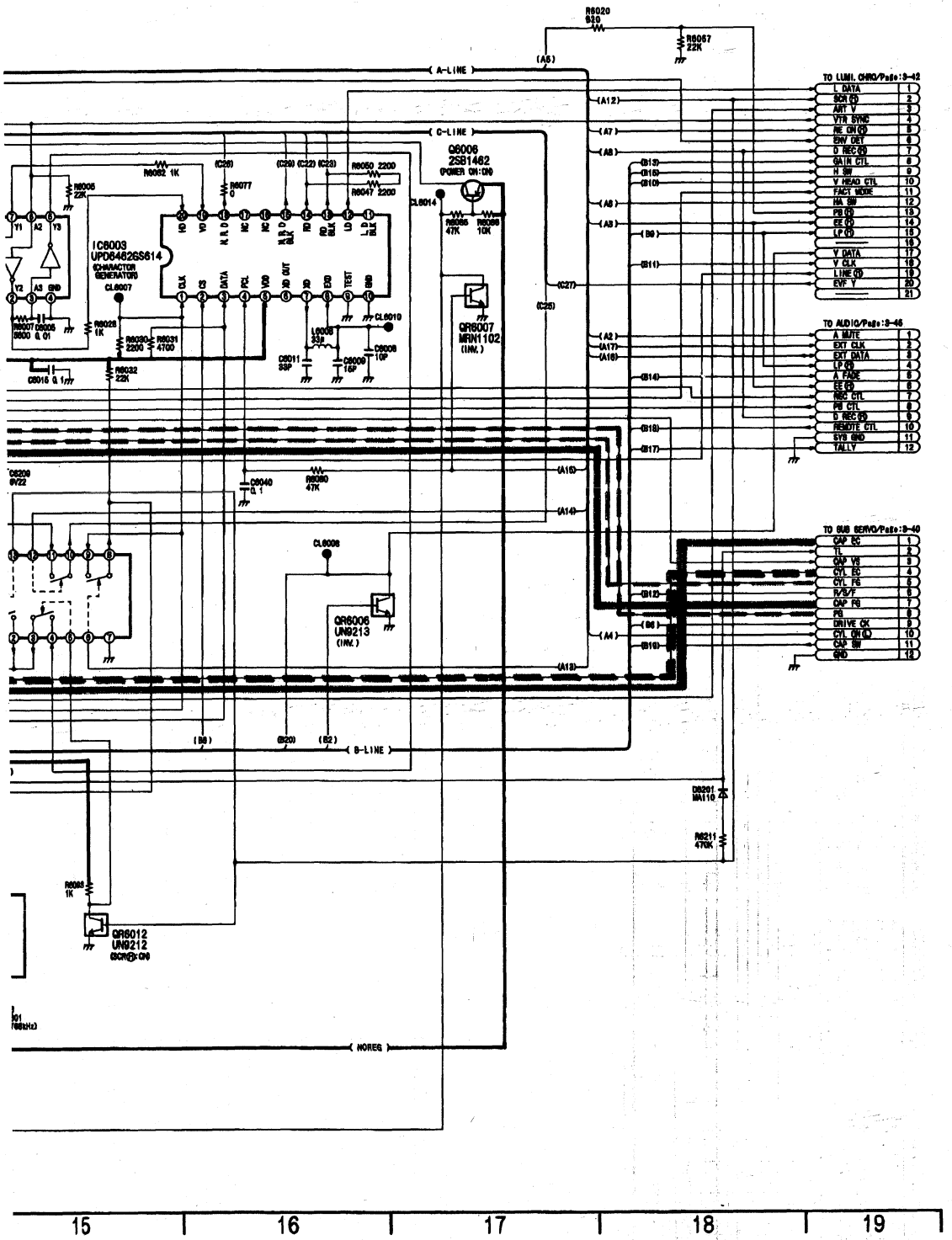
5 6 7 8 9

ERVO SPEED LOOP ——— CAPSTAN SERVO PHASE LOOP — — — CYLINDER SERVO



10 11 12 13 14 15

)ER SERVO SPEED LOOP ——— CYLINDER SERVO PHASE LOOP



SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	3.6	3.7	0	3.7	3.7	3.7	3.7	3.7	0	3.7	3.4	1.8	0	0	0	3.7	0	0	0
PLAY	0	0	3.7	0	0	3.7	3.7	0	0	3.2	3.7	3.4	1.8	0	0	1.8	3.7	0	0	0
F.F	0	3.7	3.7	0	3.7	3.5	3.7	3.7	0	0	3.7	3.4	1.8	0	0	1.8	3.7	0	0	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	1.9	3.7	3.7	0	3.7	3.4	3.4	0	0	0	3.4	3.4	3.4	3.3	0	3.8	1.9	1.8
PLAY	0	0	1.9	3.7	3.7	0	3.7	3.4	0	0	0	0	3.4	3.4	3.4	3.4	0	3.8	1.9	1.8
F.F	0	0	1.9	3.7	3.7	0	3.7	3.4	3.4	0	0	0	3.4	3.4	3.4	3.4	0	3.8	1.9	1.8

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	1.8	1.6	0	0	2.8	3.6	0	0	0	0	0.1	3.1	3.1	3.0	1.8	1.8	3.4	1.6	3.7	1.3
PLAY	1.8	1.6	0	0	2.8	3.5	0	0.2	0.1	0.1	0.2	3.1	3.2	3.0	1.8	1.8	3.4	0	3.7	1.3
F.F	1.8	1.6	0	0	2.8	3.3	0	0	0	0	0	3.1	3.2	3.0	3.3	3.3	3.4	0	3.7	1.3

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	3.7	0	3.7	0	3.7	0	1.5	0	0	3.0	3.4	1.2	3.4	3.4	0	0	1.9	1.9
PLAY	0	0	1.7	0	3.7	3.7	0	0	1.5	0	0	1.6	1.6	1.1	1.7	1.7	0	0	1.9	1.9
F.F	0	0	1.8	0	3.7	3.7	0.1	0	1.5	0	0	1.6	1.7	1.1	1.7	1.8	0.2	0	1.9	1.9

REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	1.7	2.0	3.7	0	0	1.1	0	0	0	3.4	0	3.8	0.1	3.5	3.8	0	0	3.3	2.4	2.0
PLAY	1.7	2.0	3.7	0	1.0	1.0	0	0	0	3.4	0	3.8	1.6	1.6	3.8	0	0	3.3	2.4	2.8
F.F	1.7	2.0	3.7	0	0.9	0.9	0	0	0	3.4	0	3.8	1.4	1.6	3.8	0	0	3.3	2.4	2.0

REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	0	0	0	0	3.4	3.4	3.4	3.4	3.7	3.7	3.4	3.7	2.6	3.7	1.0	0.1	3.8	0	0	0
PLAY	0	0	0	0	3.4	3.4	3.4	3.4	3.7	3.7	3.4	3.7	3.7	3.7	0	0.1	3.8	0	0	0
F.F	0	0	0	0	3.4	3.4	3.4	3.4	3.7	3.7	3.4	3.7	2.6	3.7	0.7	0.1	3.8	0	0	0

REF. NO.	IC6001																			
MODE	121	122	123	124	125	126	127	128												
STOP	0	0	0	3.7	0	0	3.7	0												
PLAY	0	0	0	0	0	0	3.7	0												
F.F	0	0	0	3.7	0	0	3.7	0												

REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8												
STOP	0	0.8	0.5	0	1.8	3.4	1.8	3.6												
PLAY	0	0.8	0.5	0	1.8	0	1.8	3.6												
F.F	0	0.8	0.5	0	1.8	3.4	3.3	3.6												

REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	3.4	3.4	1.8	3.7	3.4	0	1.4	1.4	0	0	0	0.1	0	0	0.1	0	0	0	3.4	3.2
PLAY	3.4	3.4	1.8	3.7	3.4	0	1.4	1.4	0	0	0	0.1	0	0	0	0	0	0	3.4	3.2
F.F	3.4	3.4	3.3	3.7	3.4	0	1.4	1.4	0	0	0	0.1	0	0	0.1	0	0	0	3.4	3.2

REF. NO.	IC6004										IC6005									
MODE	1	2	3								1	2	3	4	5	6	7	8		
STOP	0	6.9	3.8								0	6.9	4.9	0	0	3.0	0	0		
PLAY	0	6.9	3.8								2.1	6.9	4.9	0	0	3.0	2.0	0		
F.F	0	6.9	3.8								2.9	6.9	4.9	0	0	3.0	2.5	0		

REF. NO.	IC6006										IC6007									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	3.4	0.7	0.8	0	0	0	0	4.9			0	0	1.8	3.4	3.4					
PLAY	0	0.7	0.8	0	0	0	0	4.9			0	0	1.8	3.4	3.4					
F.F	1.6	0.7	0.7	0	0	0	0	4.9			0	0	3.3	3.4	3.4					

REF. NO.	IC6008										IC6009									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	0	3.2	3.2	0	0	0.3	3.4	3.4			0	0	0	3.7	3.7					
PLAY	0	3.2	3.2	0	0	0.2	3.4	3.4			0	0	0	3.7	3.7					
F.F	0	3.2	3.2	0	0	0.3	3.4	3.4			0	0	0	3.7	3.7					

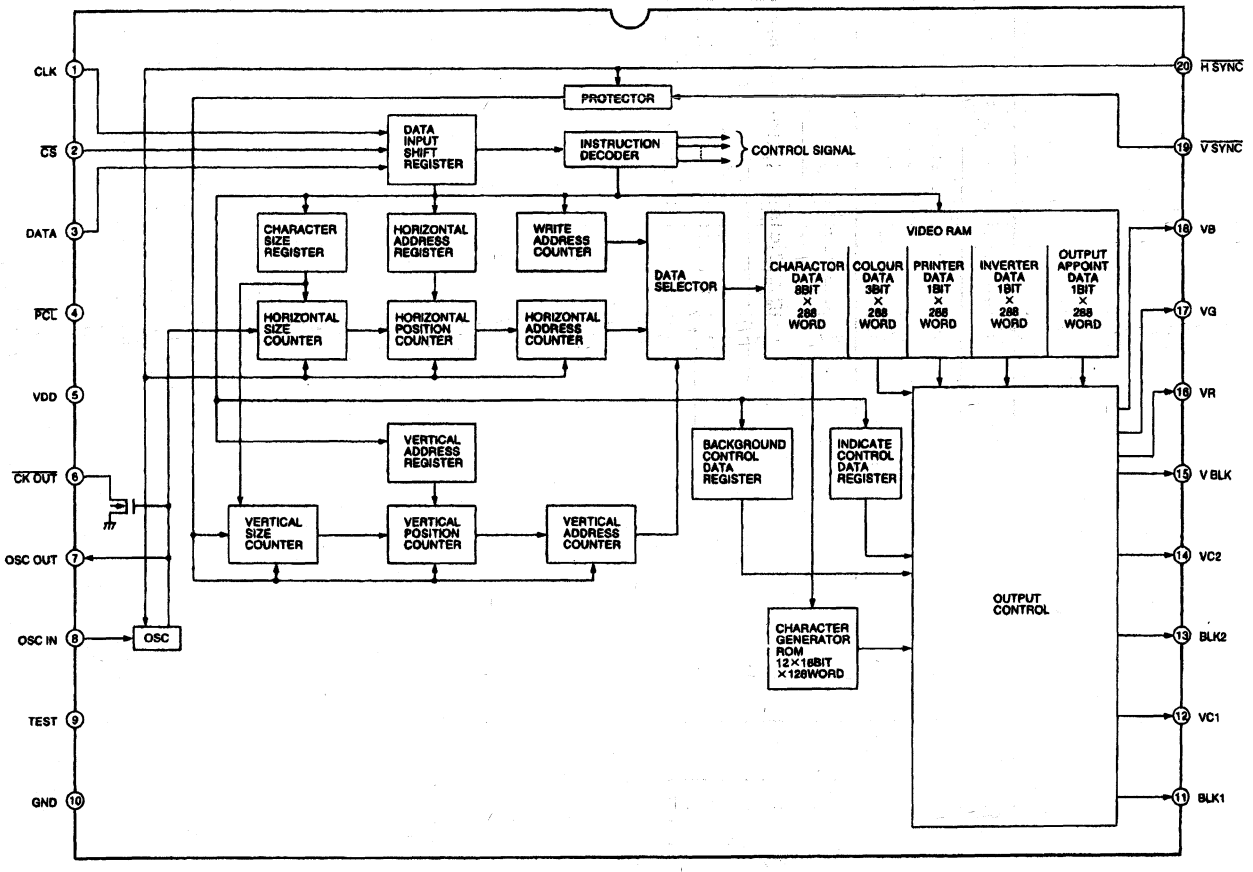
REF. NO.	IC6010																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	0	0	0	0	0	0	3.4	3.4	3.2	3.1	0.7	0	3.4						
PLAY	0	0	0	0	0	0.1	0	3.4	3.4	0	3.2	0	0	3.4						
F.F	0	0	0	0	0	0.1	0	3.4	3.4	3.3	3.1	0.9	0	3.4						

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (SP MODE)

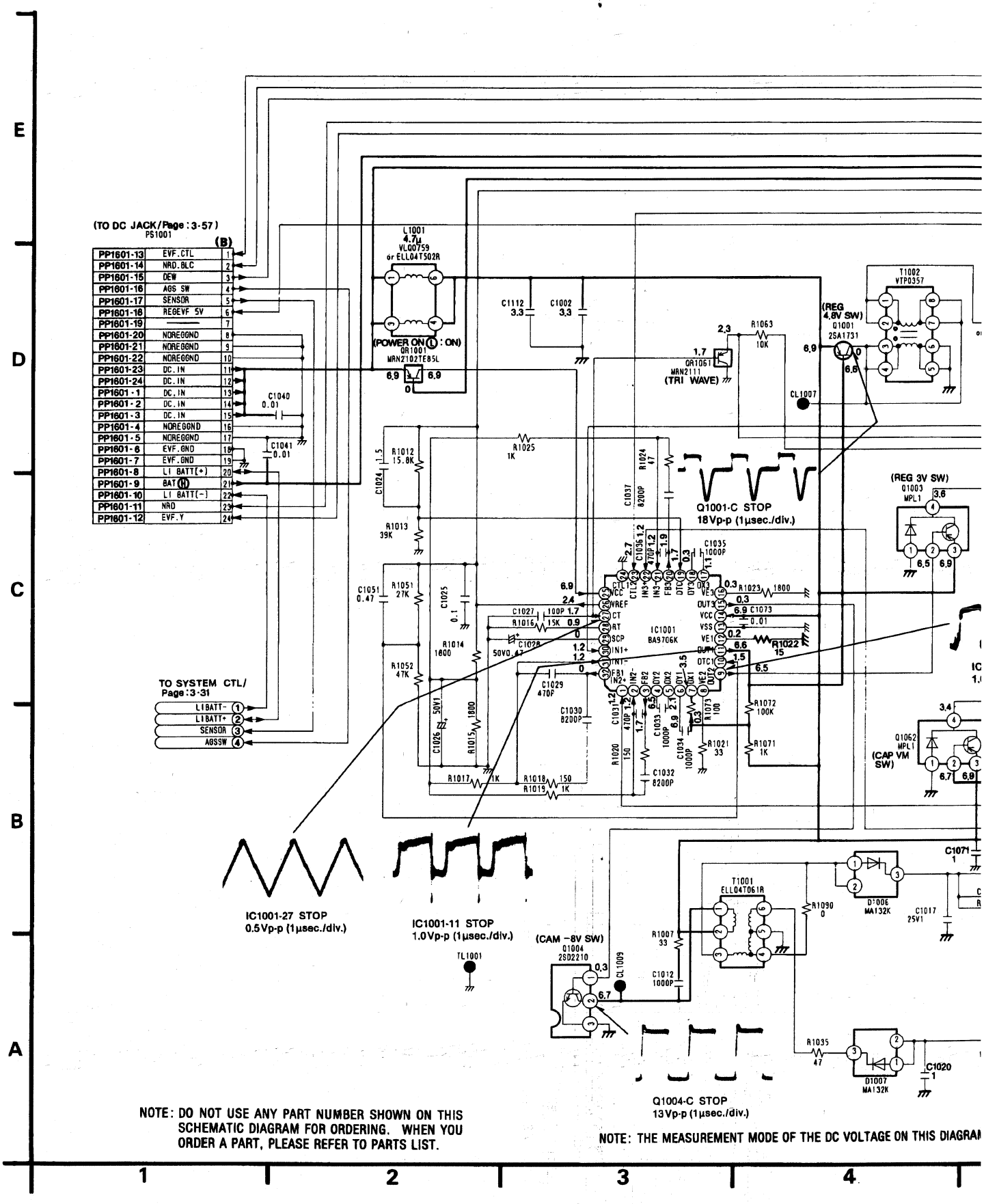
REF. NO.	Q6001			Q6002			Q6005						Q6006			Q6201		
MODE	E	C	B	E	C	B	1	2	3	4	5	6	E	C	B	E	C	B
STOP	2.6	3.2	0.2	0.1	6.9	0	0	2.8	0.2	4.7	0.1	4.7	6.9	6.9	6.3	3.7	3.7	3.2
PLAY	3.7	1.8	0.3	0.2	6.9	0	0	1.7	0.3	4.7	0.1	4.5	6.9	6.9	6.3	3.7	3.7	3.2
F.F	2.6	3.2	0.2	0.8	6.9	0.5	0	2.8	0.2	4.7	0.1	4.5	6.9	6.7	6.1	3.7	3.7	3.2
REF. NO.	QR6001			QR6002			QR6003			QR6004						QR6006		
MODE	E	C	B	E	C	B	E	C	B	1	2	3	4	5	6	E	C	B
STOP	3.7	3.7	0	3.4	0	3.7	3.4	0	3.7	3.8	3.7	3.3	3.4	0	0	0	3.2	0
PLAY	3.7	3.7	0	3.4	0	3.7	3.4	0	3.7	3.8	3.7	3.3	3.4	0	0	0	3.2	0
F.F	3.7	3.7	0	3.4	0	3.7	3.4	0.3	3.5	3.8	3.7	3.3	3.4	0	0	0	3.1	0
REF. NO.	QR6007			QR6010						QR6014			QR6015					
MODE	E	C	B	1	2	3	4	5		E	C	B	E	C	B			
STOP	0	0	3.7	3.2	0	3.0	0.3	0.1		0	3.7	0	0	6.7	0			
PLAY	0	0	3.7	3.2	0	3.0	0.3	0.1		0	3.7	0	0	6.6	0			
F.F	0	0	3.7	3.1	0	3.0	0.3	0.1		0	3.7	0	0	6.1	0			
REF. NO.	QR6050																	
MODE	1	2	3	4	5													
STOP	0	0	0	0	0													
PLAY	0	0	0	0	0													
F.F	0	0	0	0	0													

IC BLOCK

IC6003 (μPD6462GS614)
(LOCATION: E-15)

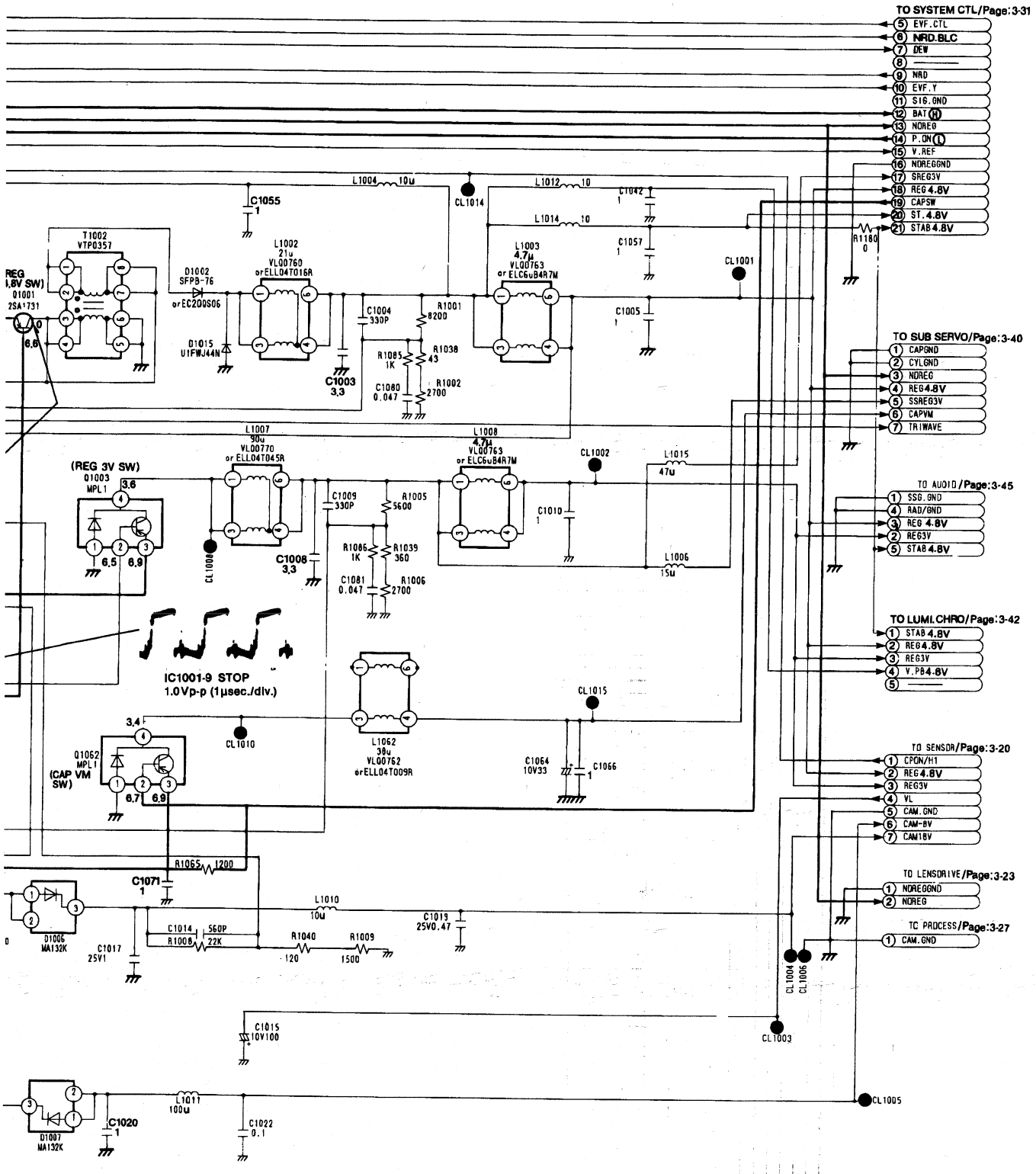


3-14. POWER SCHEMATIC DIAGRAM



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM

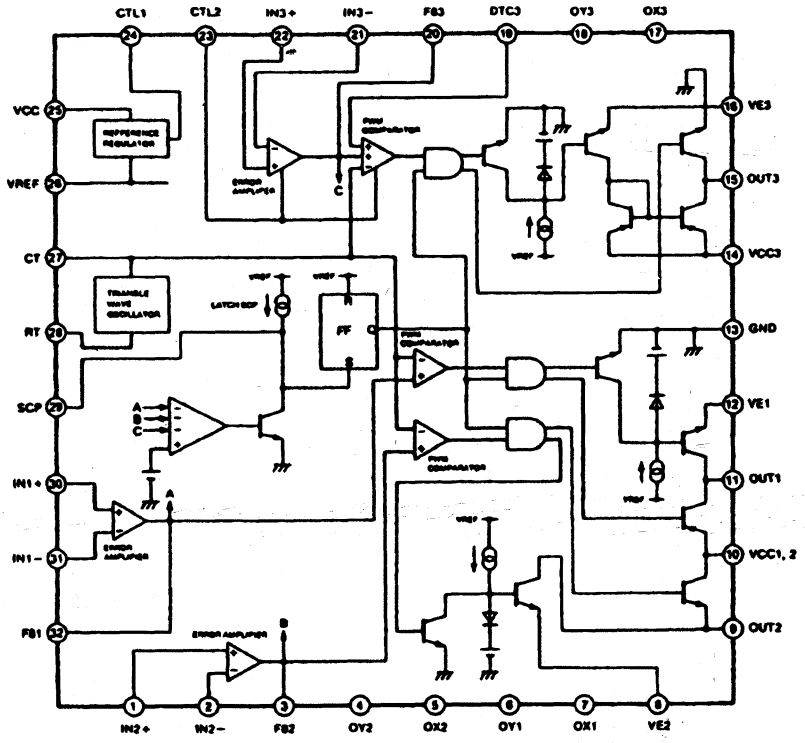


DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

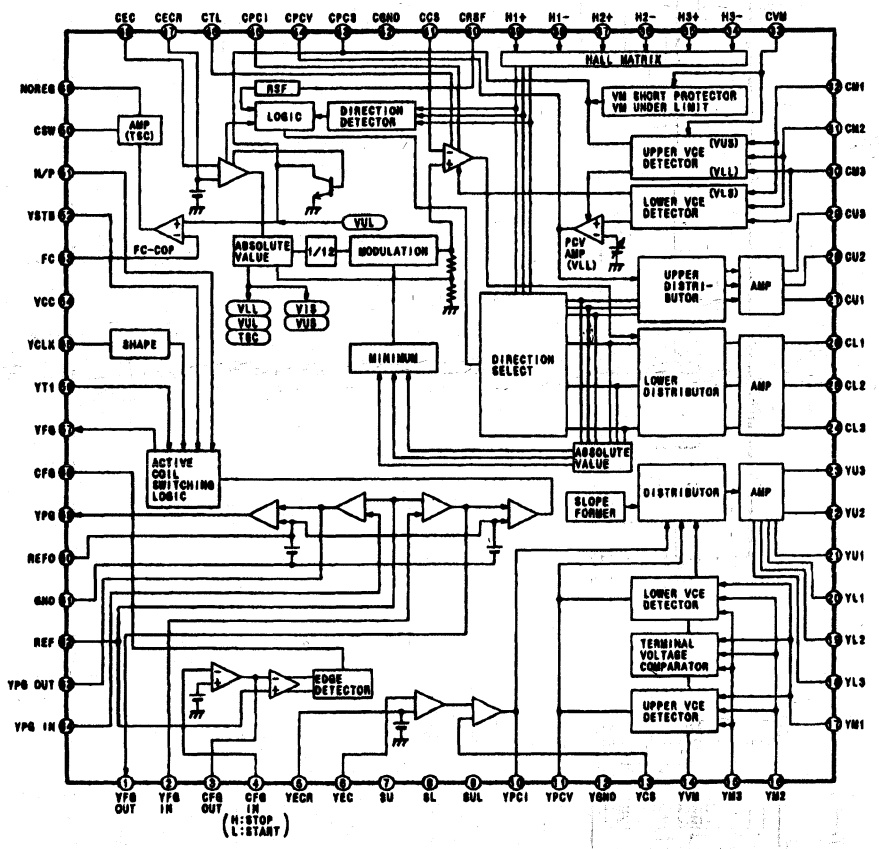
4 | 5 | 6 | 7

IC BLOCK

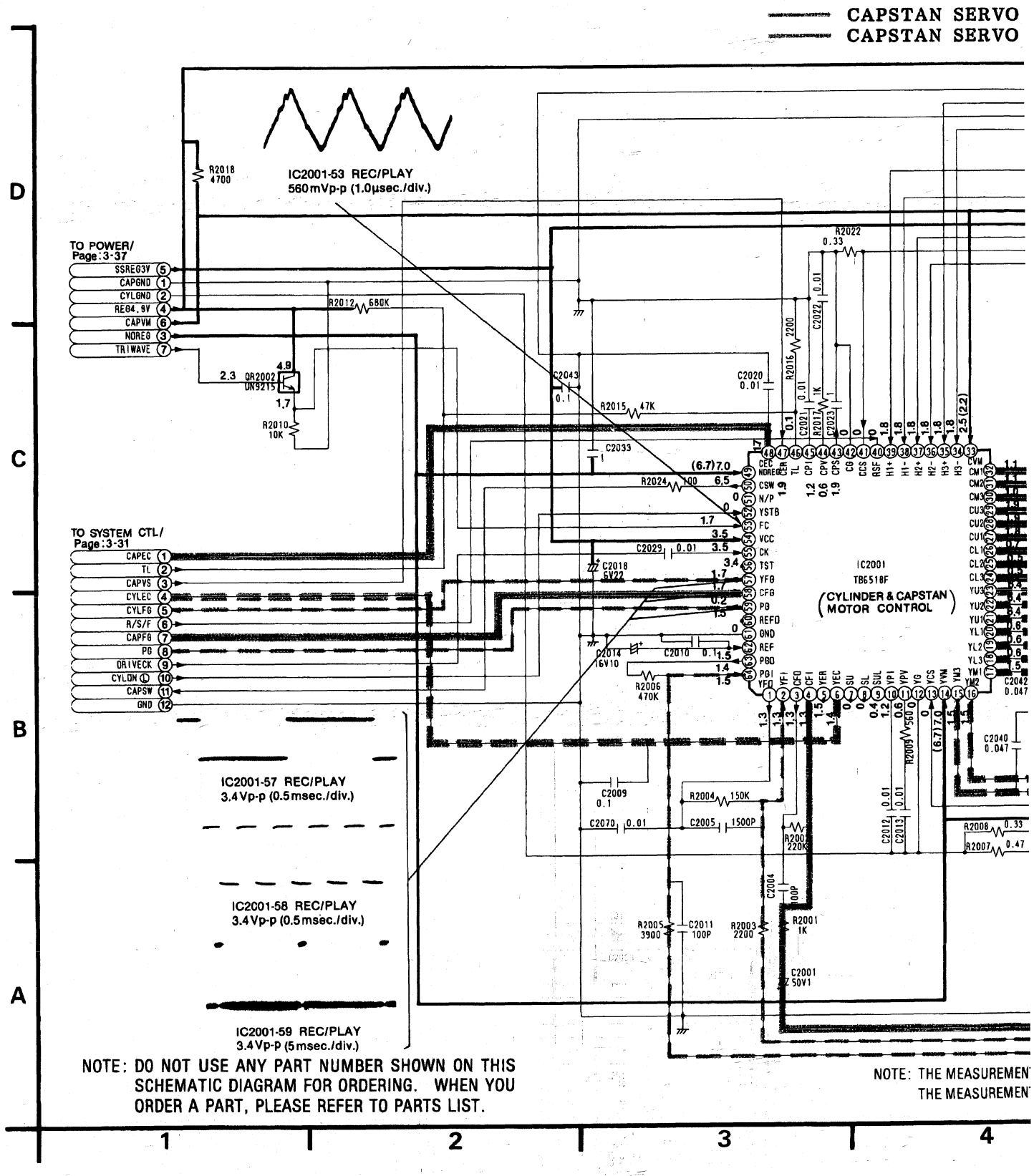
IC1001 (BA9706K)
(LOCATION: C-3)



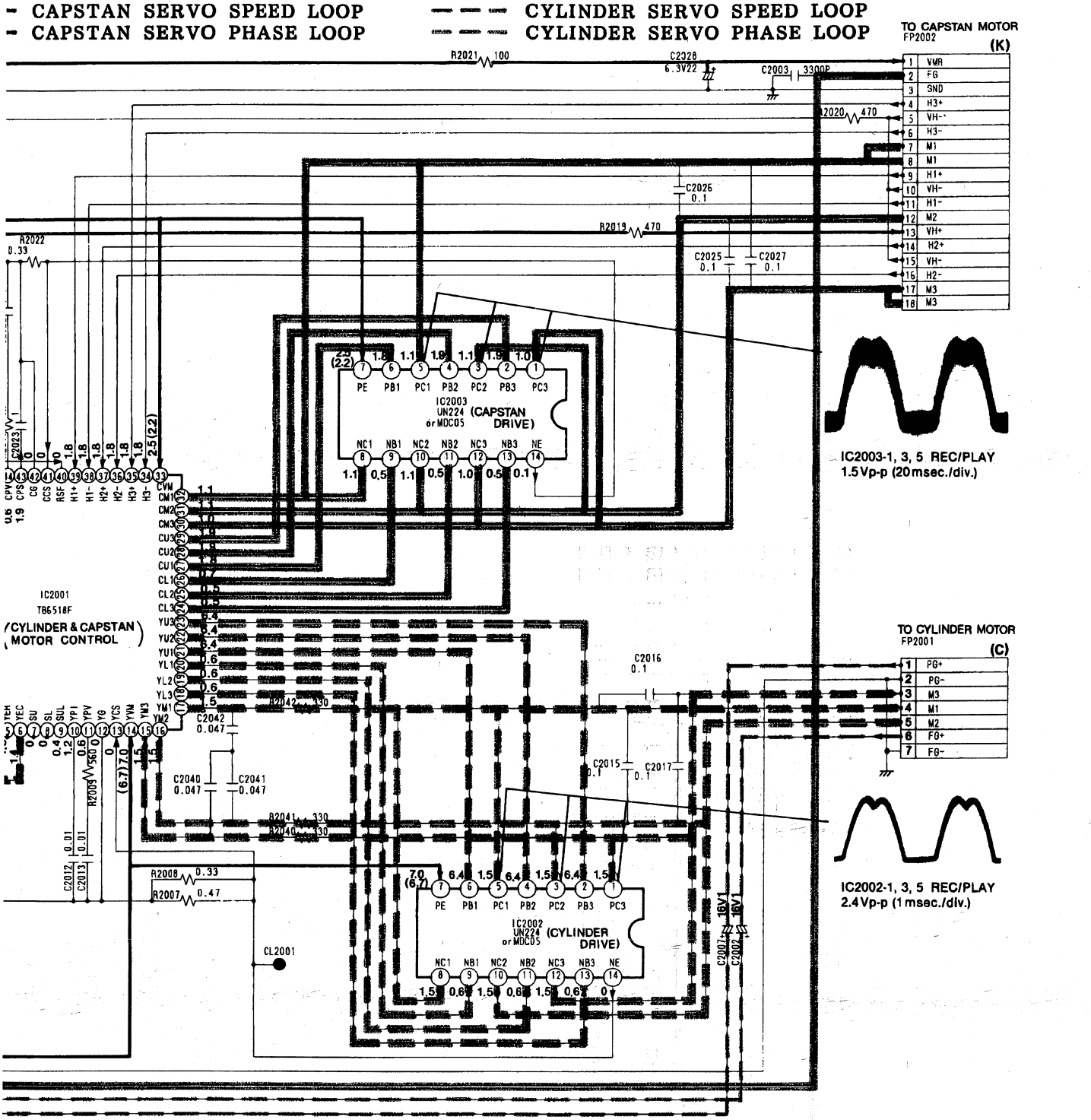
IC2001 (TB6518F)
(LOCATION: B-4)



3-15. SUB SERVO SCHEMATIC DIAGRAM

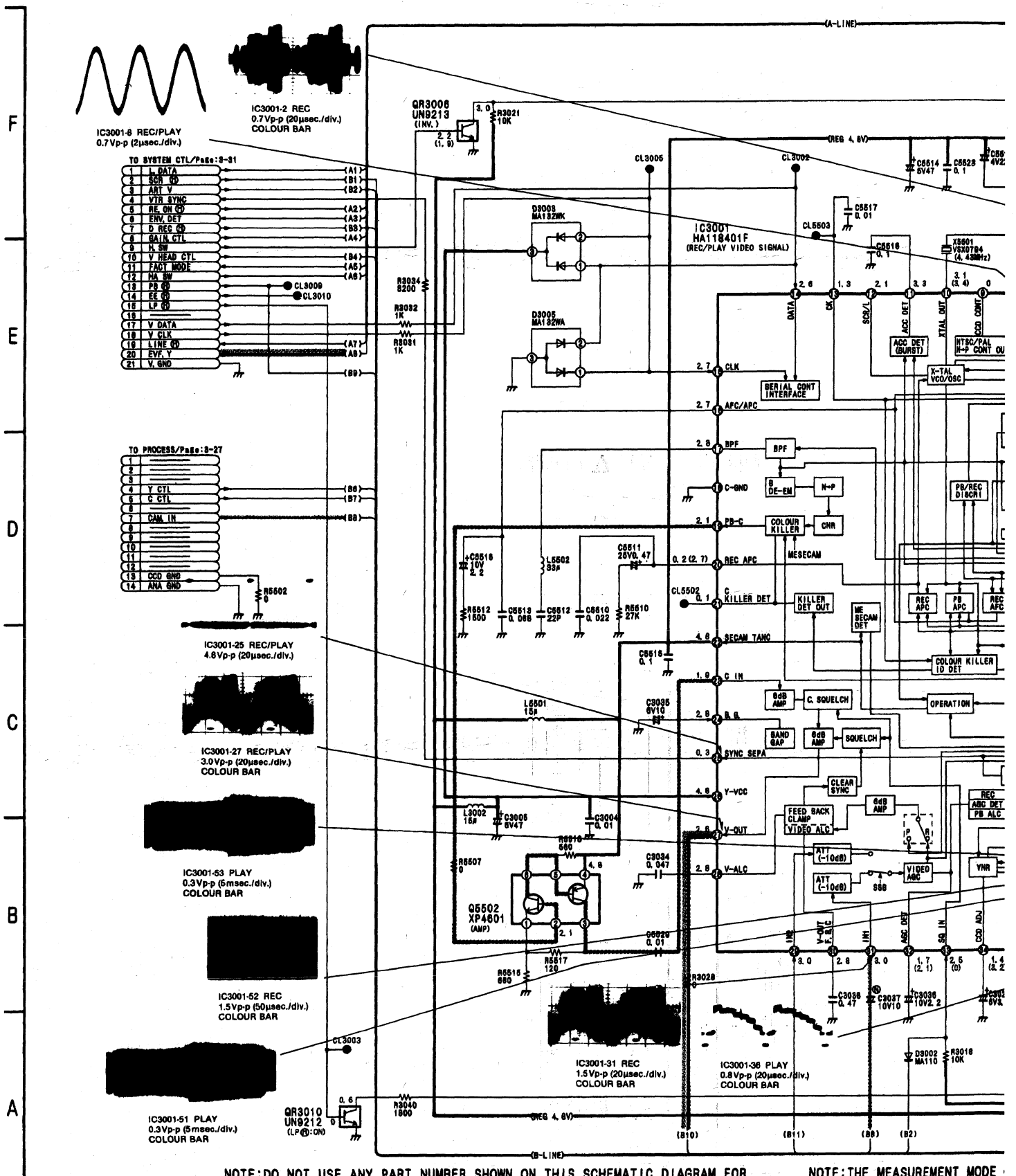


- CAPSTAN SERVO SPEED LOOP
- CAPSTAN SERVO PHASE LOOP
- - - CYLINDER SERVO SPEED LOOP
- - - CYLINDER SERVO PHASE LOOP



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

3-16. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM

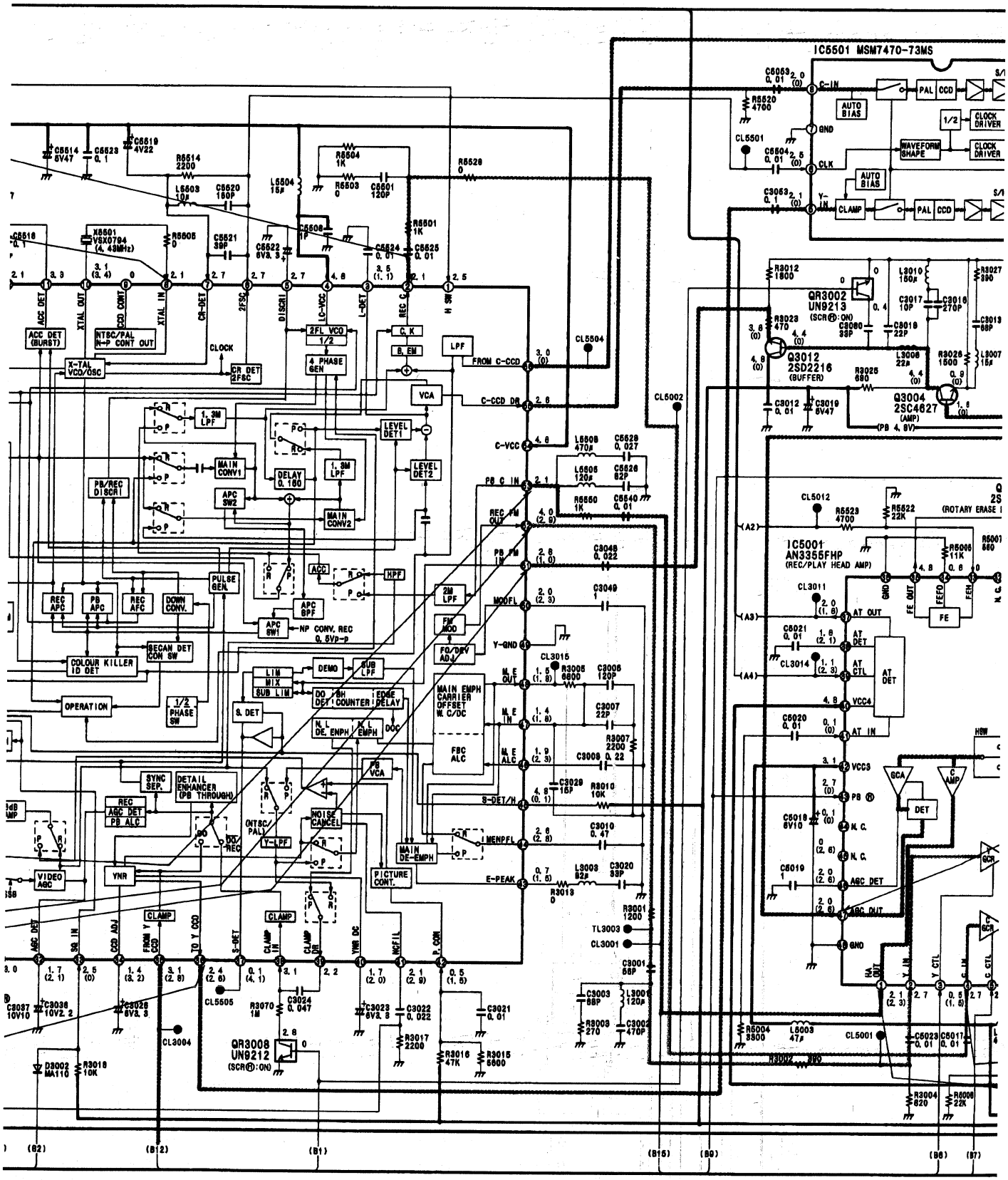


NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERRIG. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE WITH AIM THE CAMERA A

AGRAM

MAIN SIGNAL PATH

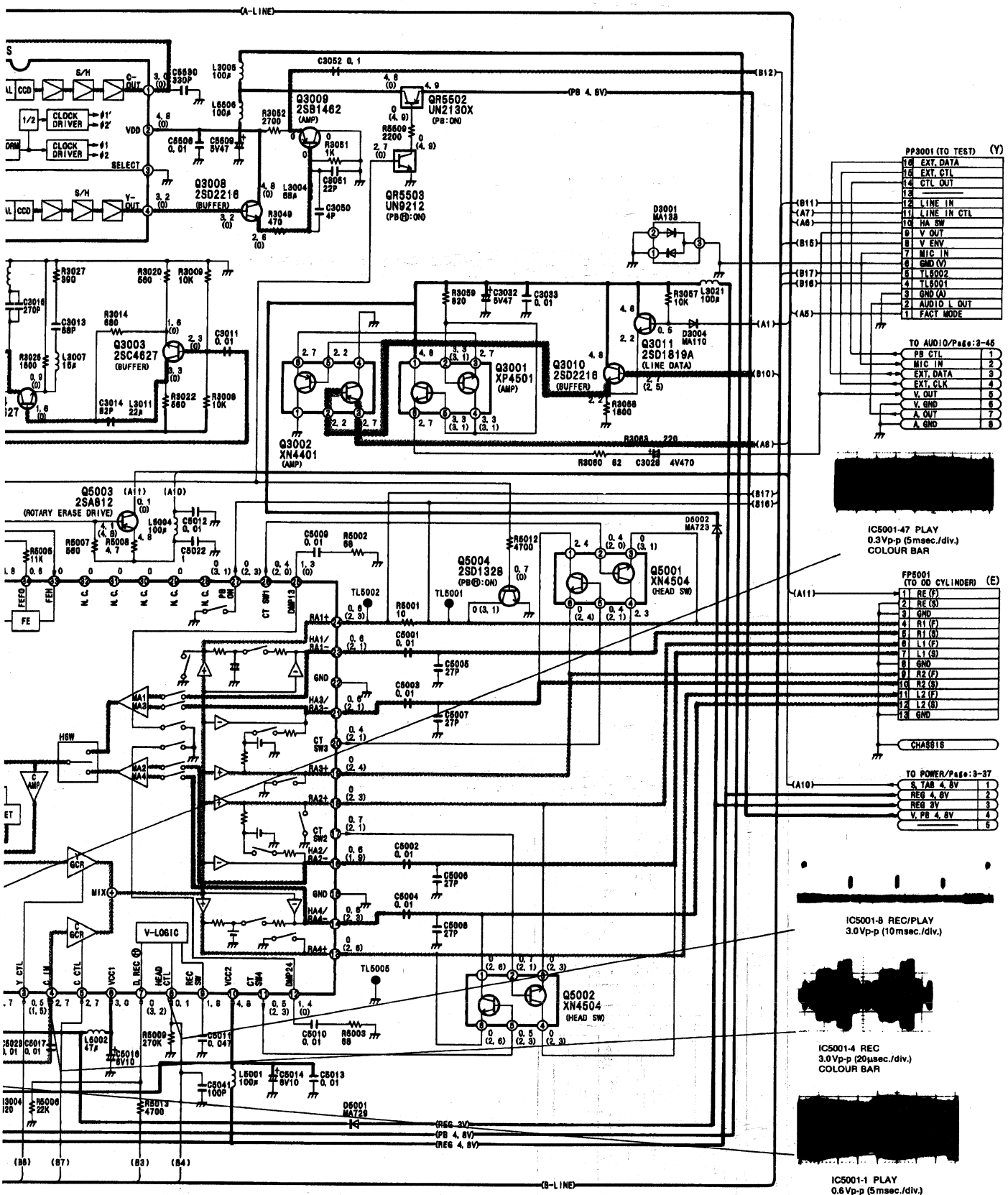


MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE
I AIM THE CAMERA AT THE COLOUR CHART. (SP MODE)

THE MEASUREMENT MODE OF THE DC
WITH PAL COLOUR SIGNAL.

5 | 6 | 7 | 8 | 9

L PATH IN REC MODE ——— MAIN SIGNAL PATH IN PLAYBACK MODE



IC5001-47 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR

IC5001-8 REC/PLAY
3.0Vp-p (10msec./div.)

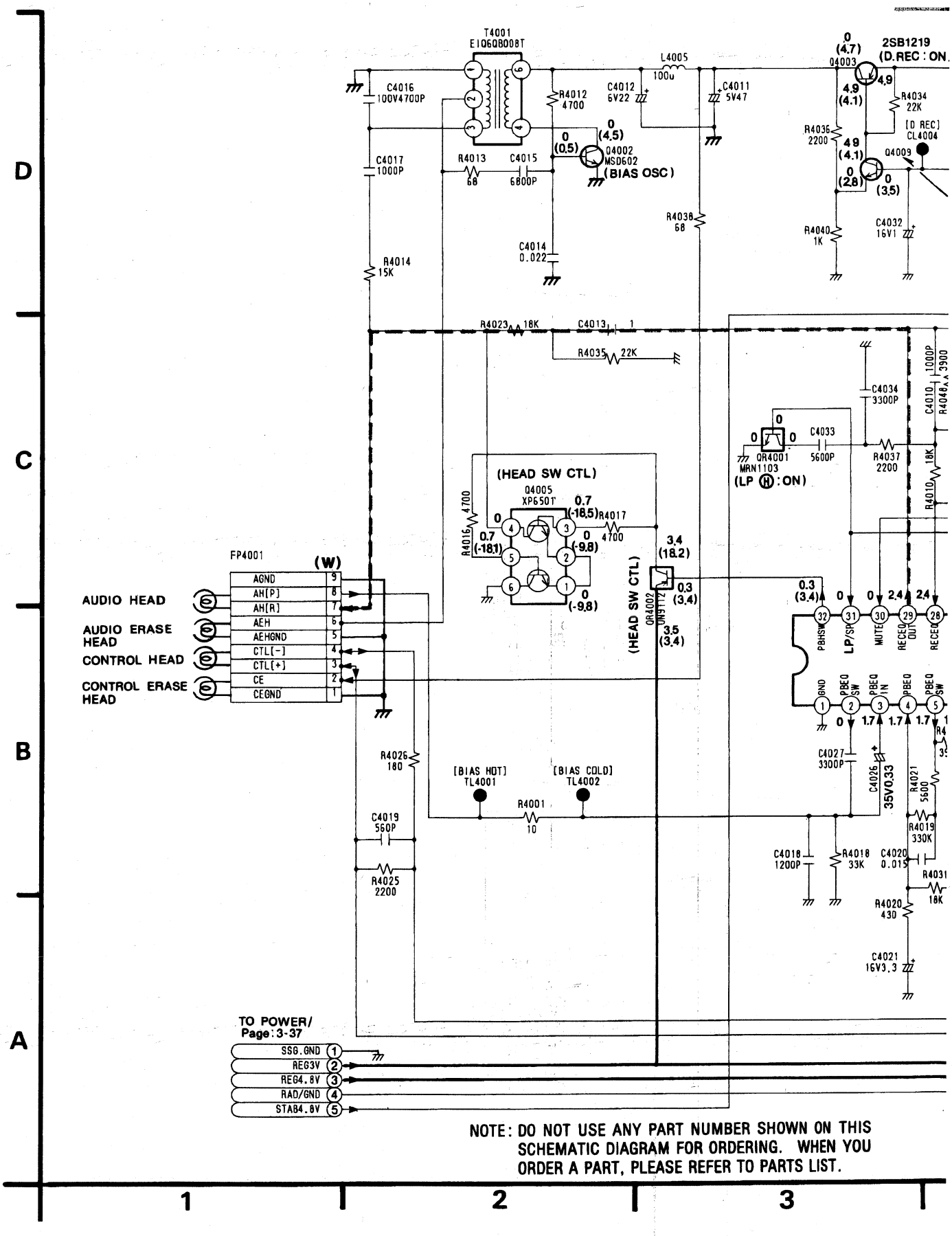
IC5001-4 REC
3.0Vp-p (20μsec./div.)
COLOUR BAR

IC5001-1 PLAY
0.6Vp-p (5msec./div.)
COLOUR BAR

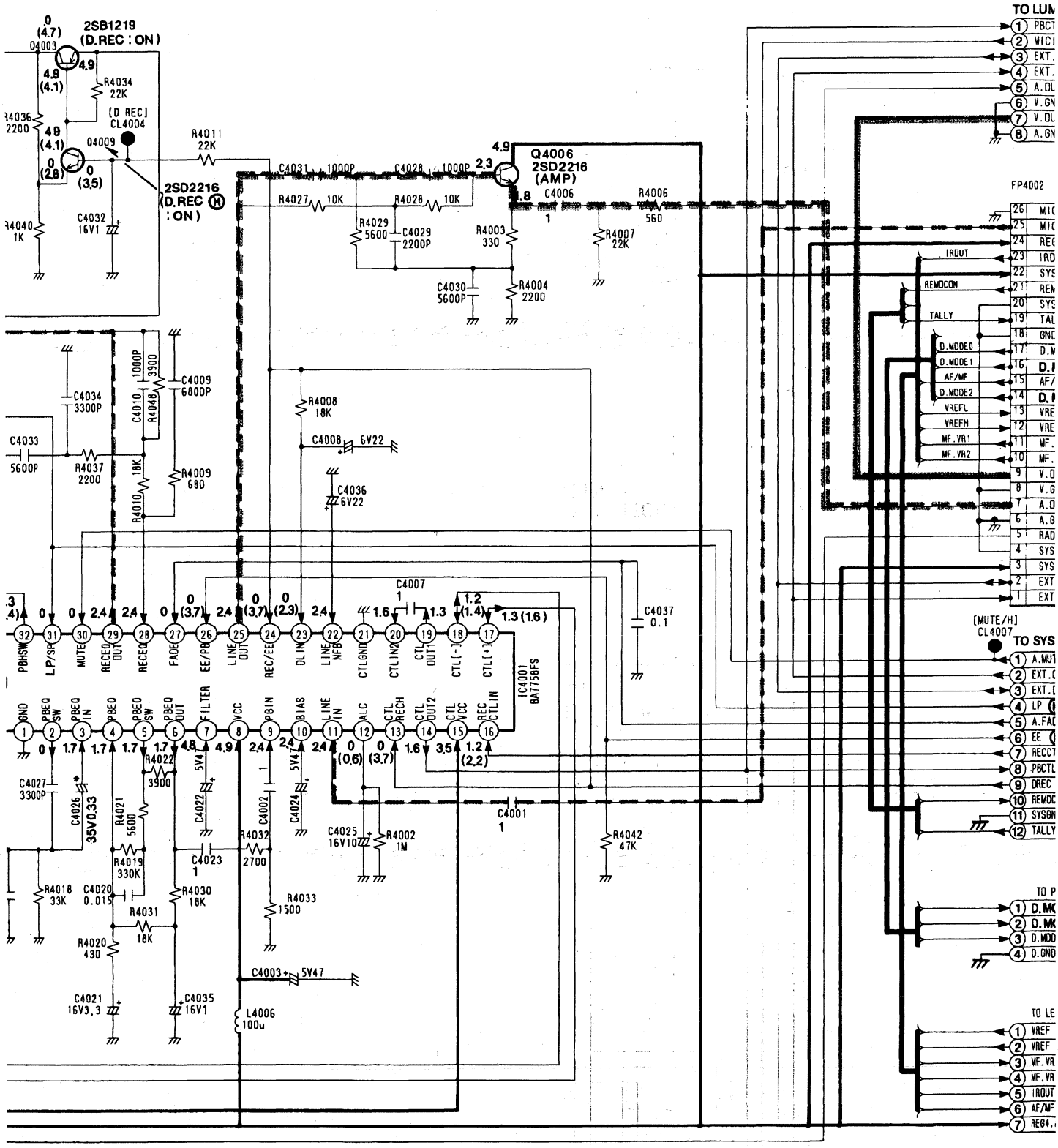
DE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
GNAL.

10 11 12 13 14

3-17. AUDIO SCHEMATIC DIAGRAM



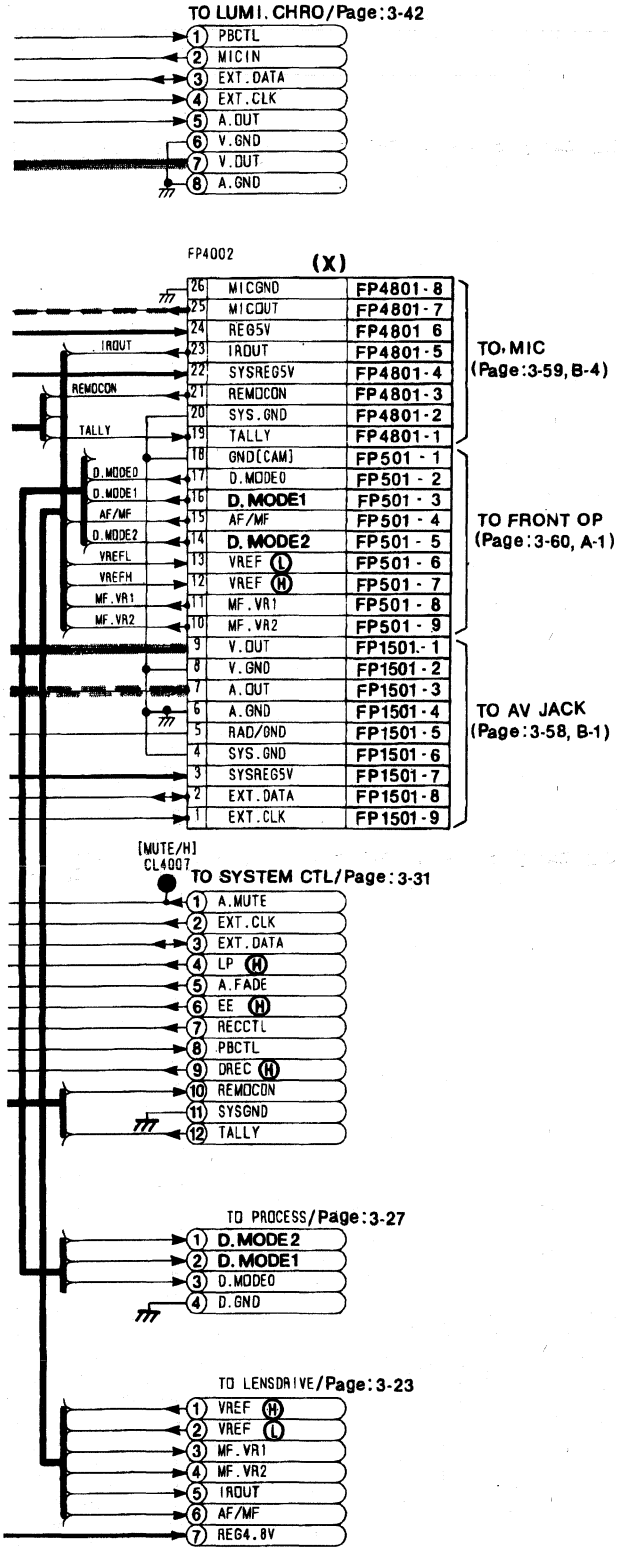
VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PAT
AUDIO MAIN SIGNAL PAT



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE. (SP MODE)

ON THIS
/HEN YOU
LIST.

:AIN SIGNAL PATH IN REC MODE
[AIN SIGNAL PATH IN PLAYBACK MODE

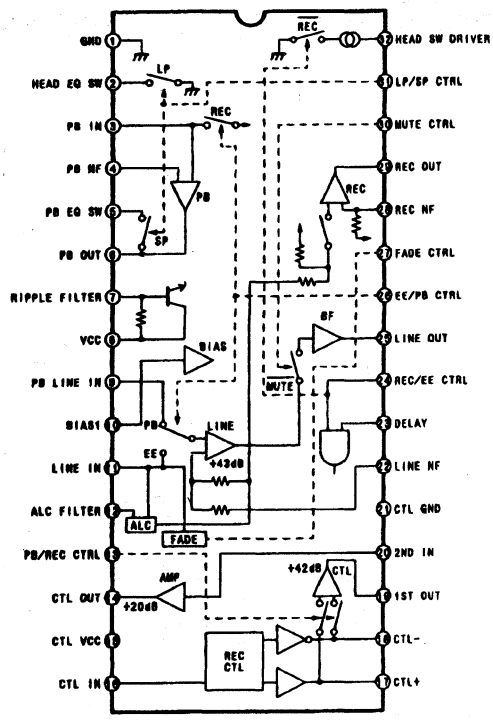


ON THIS

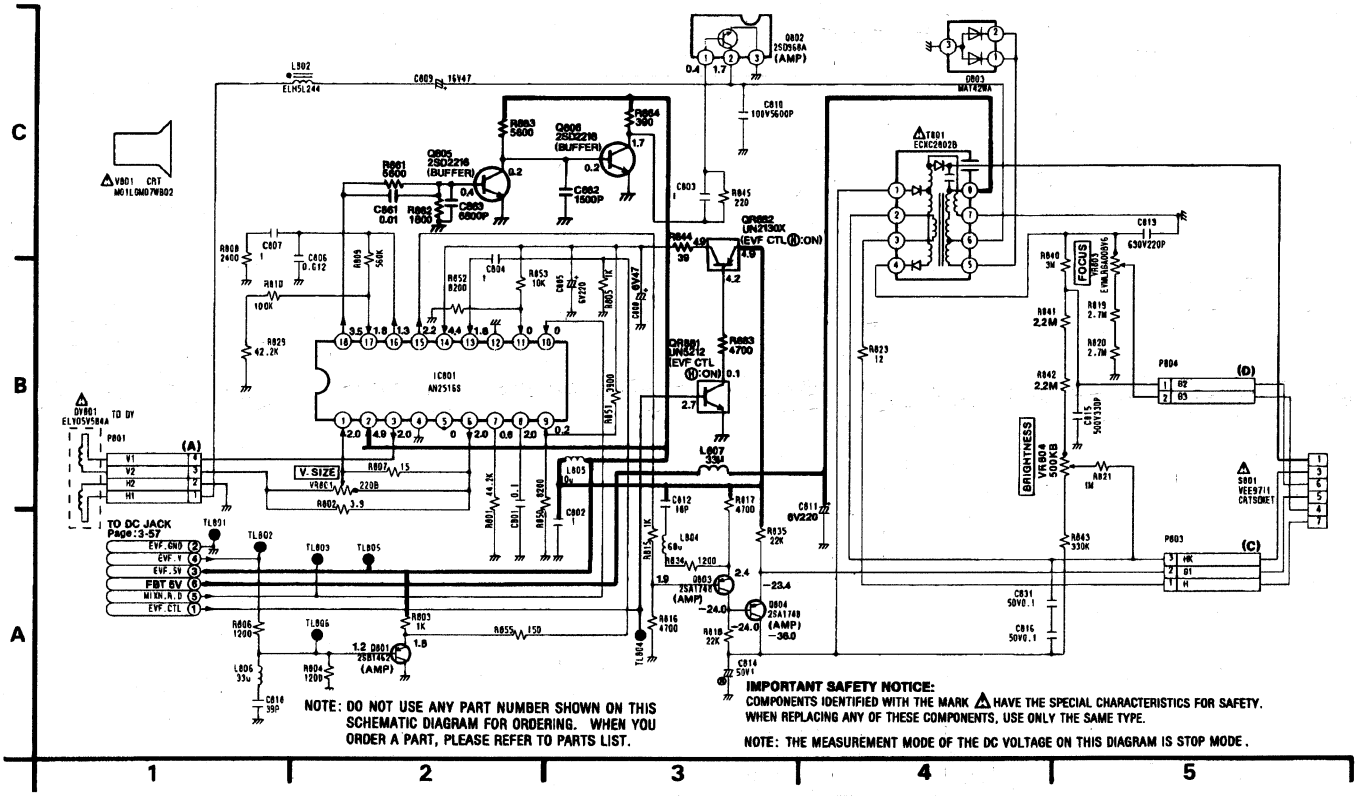
DIAGRAM

IC BLOCK

IC4001 (BA7758FS) (LOCATION: B-5)

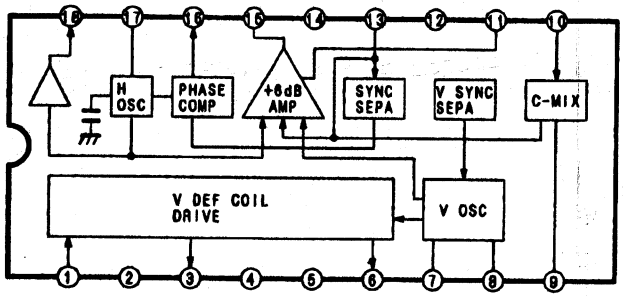


3-19. E.V.F. SCHEMATIC DIAGRAM

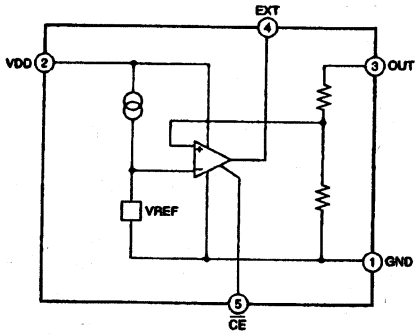


IC BLOCK

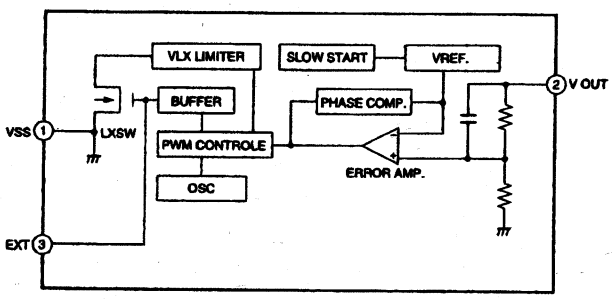
IC801 (AN2516S)
(LOCATION: B-2)



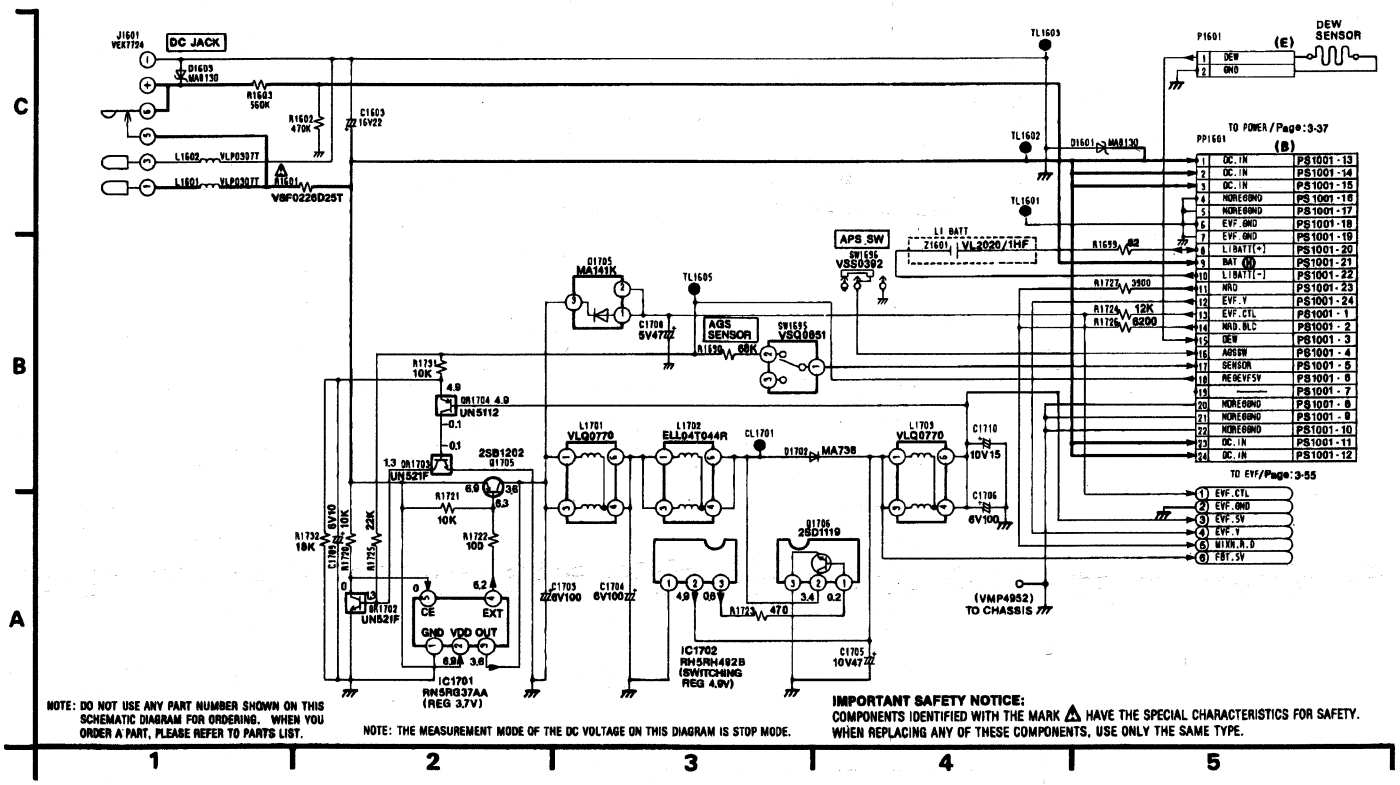
IC1701 (RN5RG37AA)
(LOCATION: A-2)



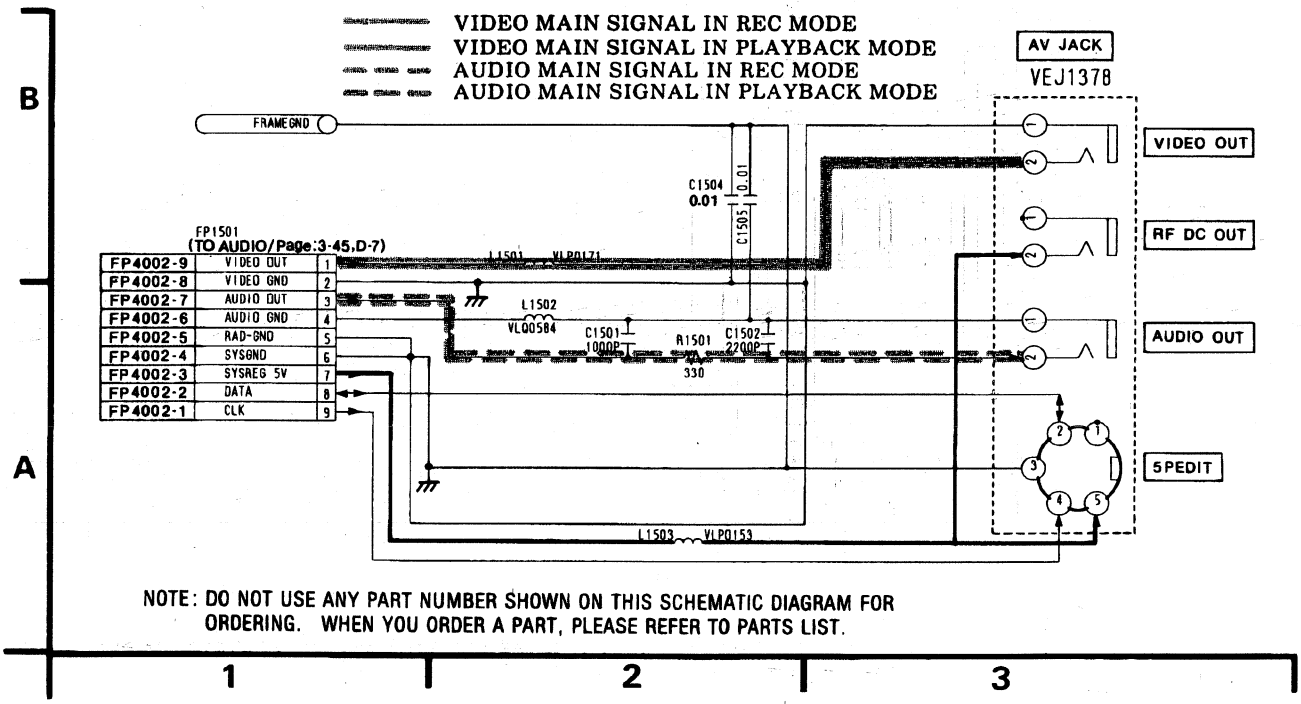
IC1702 (RH5RH492B)
(LOCATION: A-3)



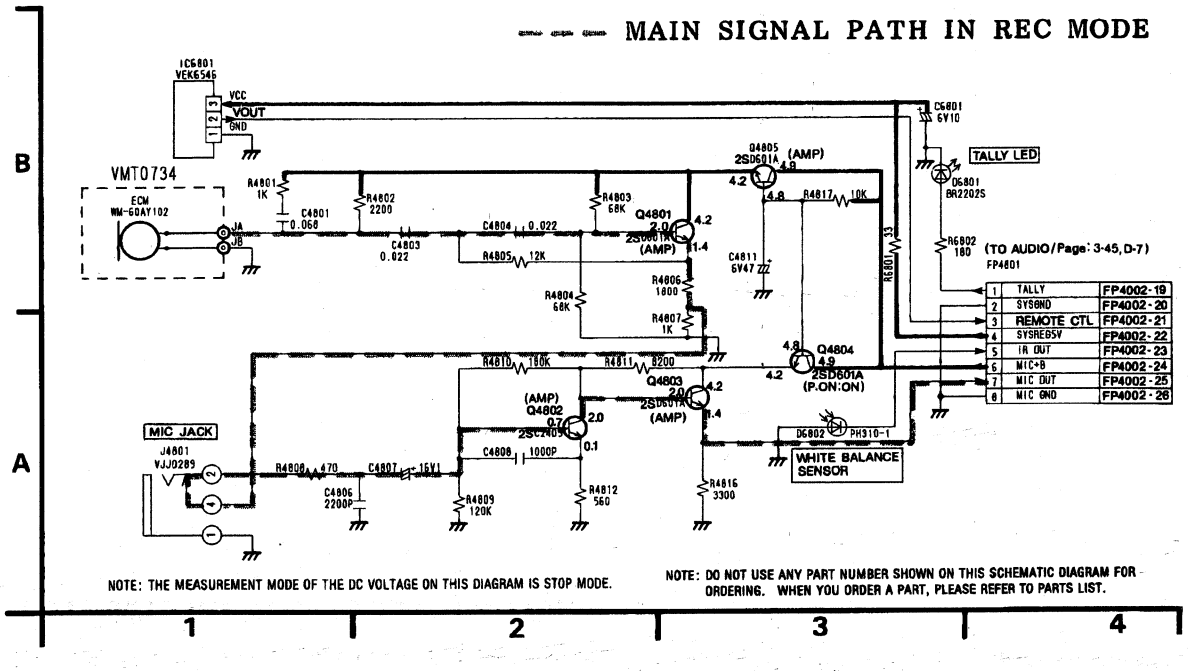
3-21. DC JACK SCHEMATIC DIAGRAM


DC JACK
DEW SENSOR
(E)
(B)
TO POWER / Page:3-37
TO EVF/Page:3-55
APS SW
AGS SENSOR
LI BATT
(VMP4952) TO CHASSIS
IC1701 RN5RG37AA (REG 3.7V)
IC1702 RN5RH4492B (SWITCHING REG 4.9V)
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

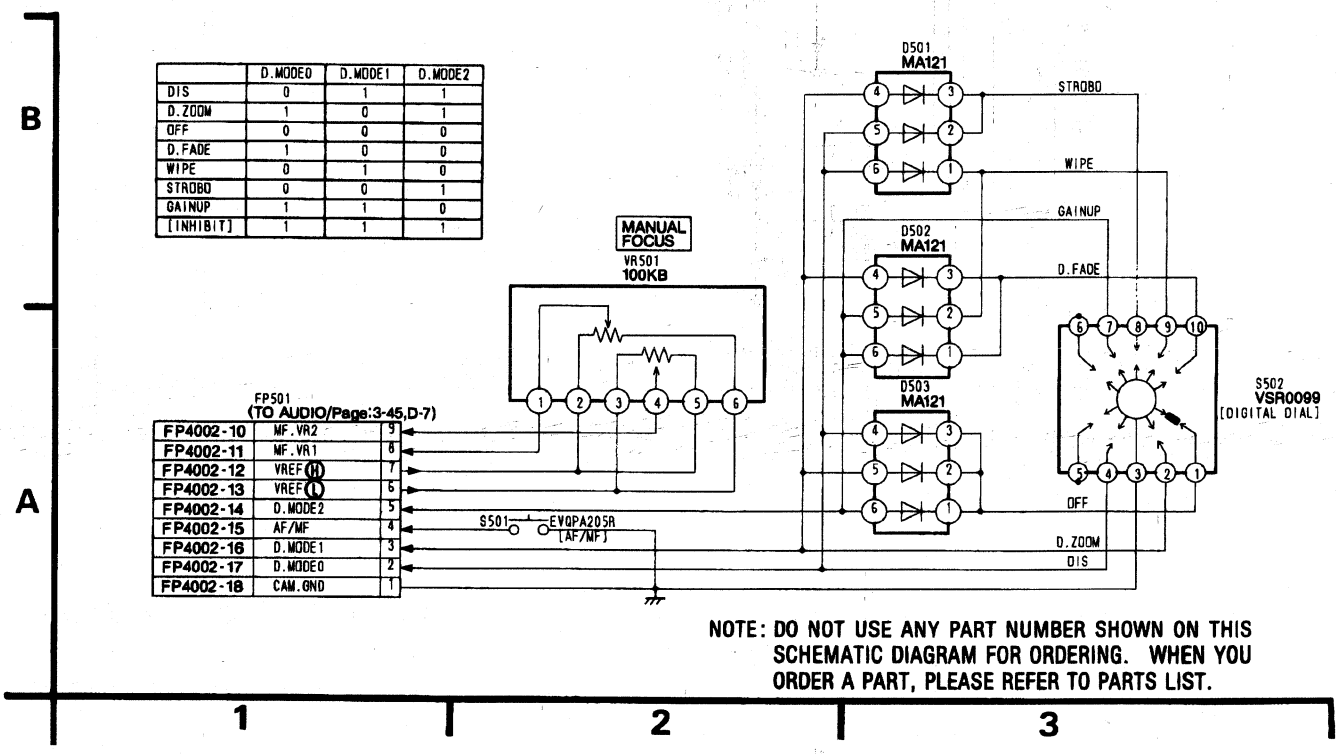
3-22. AV JACK SCHEMATIC DIAGRAM


VIDEO MAIN SIGNAL IN REC MODE
VIDEO MAIN SIGNAL IN PLAYBACK MODE
AUDIO MAIN SIGNAL IN REC MODE
AUDIO MAIN SIGNAL IN PLAYBACK MODE
AV JACK
VEJ1378
VIDEO OUT
RF DC OUT
AUDIO OUT
5PEDIT
FRAME GND
FP1501
(TO AUDIO/Page:3-45,D-7)
FP4002-9 VIDEO OUT 1
FP4002-8 VIDEO GND 2
FP4002-7 AUDIO OUT 3
FP4002-6 AUDIO GND 4
FP4002-5 RAD-GND 5
FP4002-4 SYSGND 6
FP4002-3 SYSREG 5V 7
FP4002-2 DATA 8
FP4002-1 CLK 9
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-24. MIC SCHEMATIC DIAGRAM



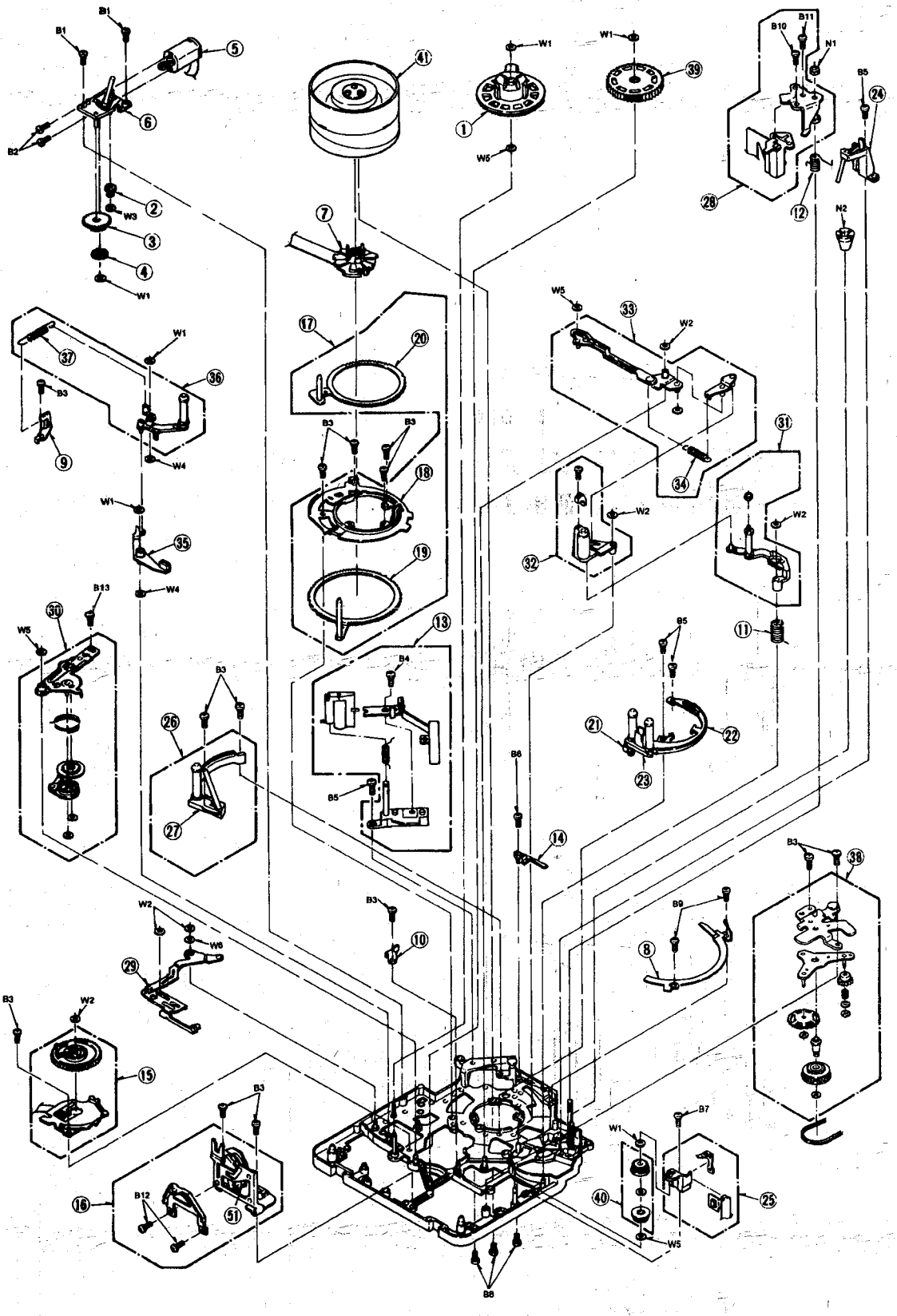
3-26. FRONT OPERATION SCHEMATIC DIAGRAM



SECTION 4
EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEWS & MECHANICAL REPLACEMENT PARTS LIST

❶ VTR MECHANISM SECTION (1)

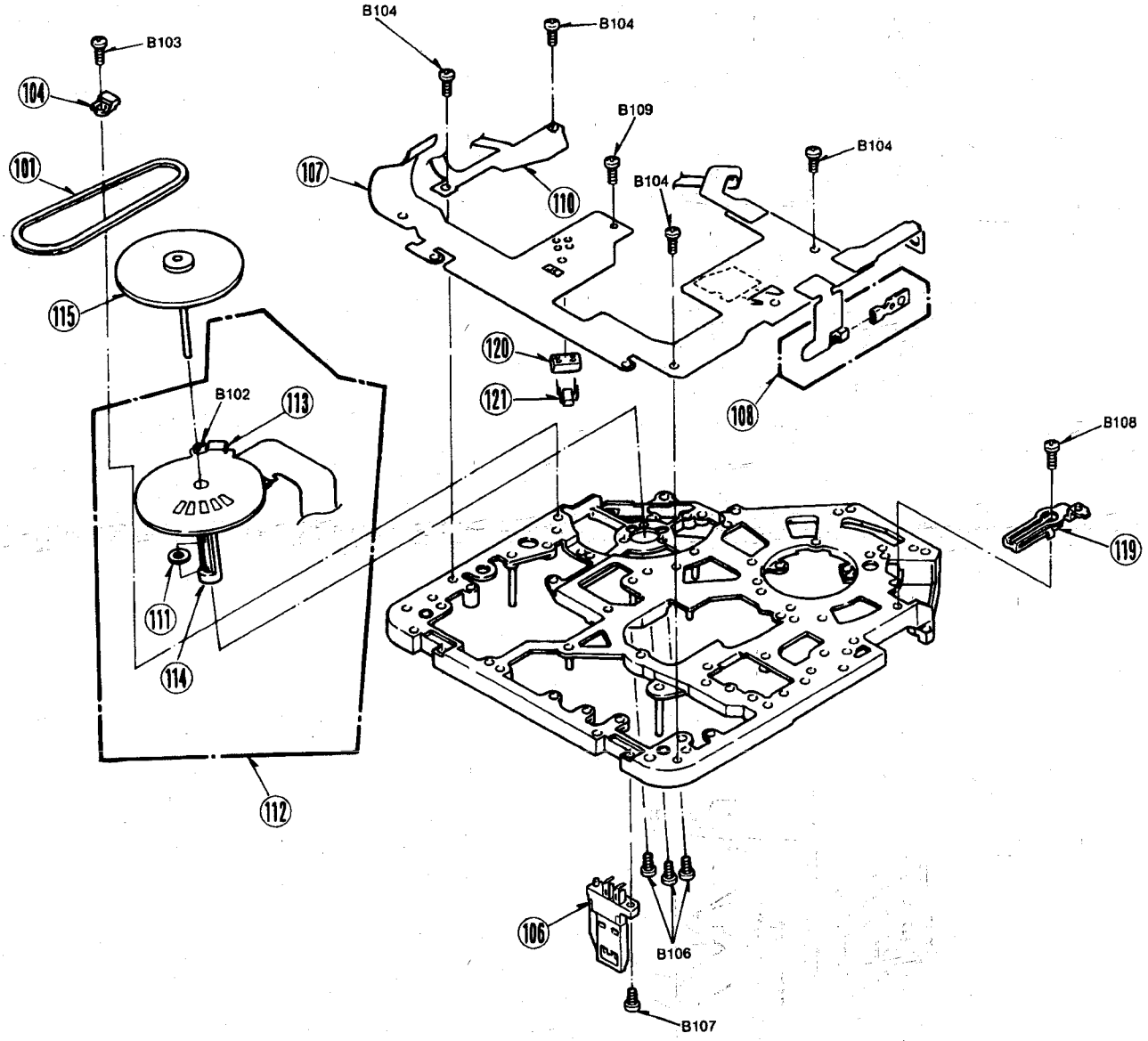


Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1 (1)		VDR0226	REEL BASE (S)	1	
2 (1)		VDG0821	BRAKE GEAR (A)	1	
3 (1)		VDG0822	BRAKE GEAR (B)	1	
4 (1)		VDG0823	BRAKE GEAR (C)	1	
5 (1)		VEM0417	LOADING MOTOR (1) U.	1	
6 (1)		VXA4527	MOTOR HOLDER U.	1	
7 (1)		VEK7277	RT CONNECTOR U.	1	
8 (1)		VMA8502	T-RING SLIDER	1	
9 (1)		VMA8505	TEN-REG.SPRING HOOK	1	
10 (1)		VMA8532	PENDULUM ARM HOLDER	1	
11 (1)		VMB2362	T3 ARM SPRING	1	
12 (1)		VMB2365	AC HEAD SPRING	1	
13 (1)		VXA5306	S-GUIDE STAND U.	1	
14 (1)		VMD1851	T-BOAT GUIDE	1	
15 (1)		VSR0096	MODE SWITCH U.	1	
16 (1)		VXA5001	LOCK BASE U.	1	
17 (1)		VXA4517	LOADING RING U.	1	
18 (1)		VMD1824	RING GUIDE	1	
19 (1)		VXA4518	T-RING U.	1	
20 (1)		VXA4519	S-RING U.	1	
21 (1)		VEK5549	LED U.	1	
22 (1)		VMD1828	T-RAIL	1	
23 (1)		VXA5260	T-BOAT U.	1	
24 (1)		VXA4528	T4 POST U.	1	
25 (1)		VXA4997	T-REEL SENSOR U.	1	
26 (1)		VXA5153	S-RAIL U.	1	
27 (1)		VXA5124	S-BOAT U.	1	
28 (1)		VXA5201	AC HEAD U.	1	
29 (1)		VXL2393	EJECT LEVER (1) U.	1	
30 (1)		VXL2401	SWING ARM U.	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
31 (1)		VXL2431	T3 ARM (A) U.	1	
32 (1)		VXL2139	PINCH ARM U.	1	
33 (1)		VXL2140	PINCH DRIVE ARM U.	1	
34 (1)		VMB2363	PINCH PRESSURE SPRING	1	
35 (1)		VXL2144	PAD ARM U.	1	
36 (1)		VXL2145	TEN-REG. ARM U.	1	
37 (1)		VMB2364	TEN-REG. SPRING	1	
38 (1)		VXL2399	IDLER U.	1	
39 (1)		VXP1308	RELAY GEAR U.	1	
40 (1)		VXP1313	T-DRIVE GEAR U.	1	
41 (1)		VEG1175	CYLINDER U.	1	
51 (1)		VMB2369	LOCK SPRING	1	
B1 (1)		XQN14+B25FY	SCREW	2	
B2 (1)		XQN14+A14	SCREW	2	
B3 (1)		XQN14+B2	SCREW	13	
B4 (1)		XQN14+BJ35	SCREW	1	
B5 (1)		XQN14+B25FY	SCREW	3	
B6 (1)		XQN14+B25FY	SCREW	1	
B7 (1)		XQN14+B25FY	SCREW	1	
B8 (1)		XQN14+C35R	SCREW	3	
B9 (1)		VHD0711	SCREW	2	
B10 (1)		VHD0700	SCREW	1	
B11 (1)		VHD0699	SCREW	1	
B12 (1)		XQN14+CF25	SCREW	2	
B13 (1)		VHD0707	SCREW	1	
N1 (1)		VHN0047	NUT	1	
N2 (1)		VHN0175	NUT	1	
W1 (1)		VMX2027	WASHER	6	
W2 (1)		VMX2026	WASHER	7	
W3 (1)		VMX2051	WASHER	1	
W4 (1)		XWGV1223G	WASHER	2	
W5 (1)		XWGV12Y3G	WASHER	3	
W6 (1)		VMX2026	WASHER	1	

❷ VTR MECHANISM SECTION (2)

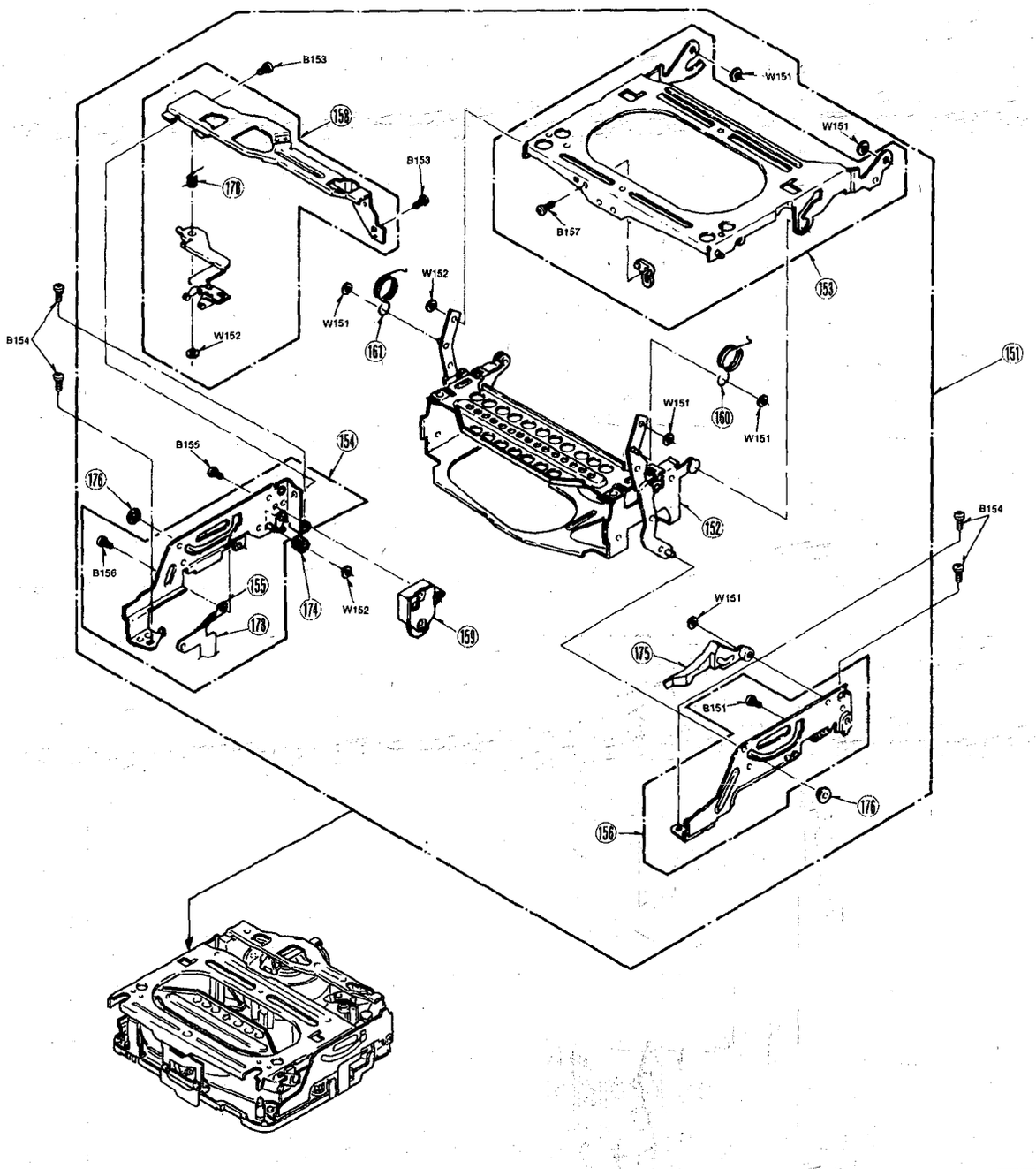


Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
101 (2)		VDV0232	CAPSTAN BELT	1	
104 (2)		VMD1846	CAPSTAN STOPPER	1	
106 (2)		VSH0065	REC SAFETY SW U.	1	
107 (2)		VWJ0878	MECH.FLEXIBLE CARD	1	
108 (2)		VXA4511	PHOTO (L) U.	1	
110 (2)		VXA4997	T-REEL SENSOR U.	1	
111 (2)		VDB1129	LOWER BEARING	1	
112 (2)		VEK7314	STATOR U.	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
113 (2)		VBK0059	MR HEAD	1	
114 (2)		VXD0134	HOUSING U.	1	
115 (2)		VXP1303	ROTOR U.	1	
119 (2)		VMP4923	H.A. EARTH PLATE	1	
120 (2)		VMD1842	REEL SENSOR MOUNT	1	
121 (2)		ON2170-LN	REEL SENSOR	1	
B102 (2)		VHD0593	SCREW	1	
B103 (2)		XQN14+B2	SCREW	1	
B104 (2)		XQN14+C2R	SCREW	5	
B106 (2)		XQN14+A3	SCREW	3	
B107 (2)		XQN14+CF4	SCREW	1	
B108 (2)		XQN14+C2	SCREW	1	
B109 (2)		VHD3875	SCREW	1	

❸ VTR MECHANISM SECTION (3)

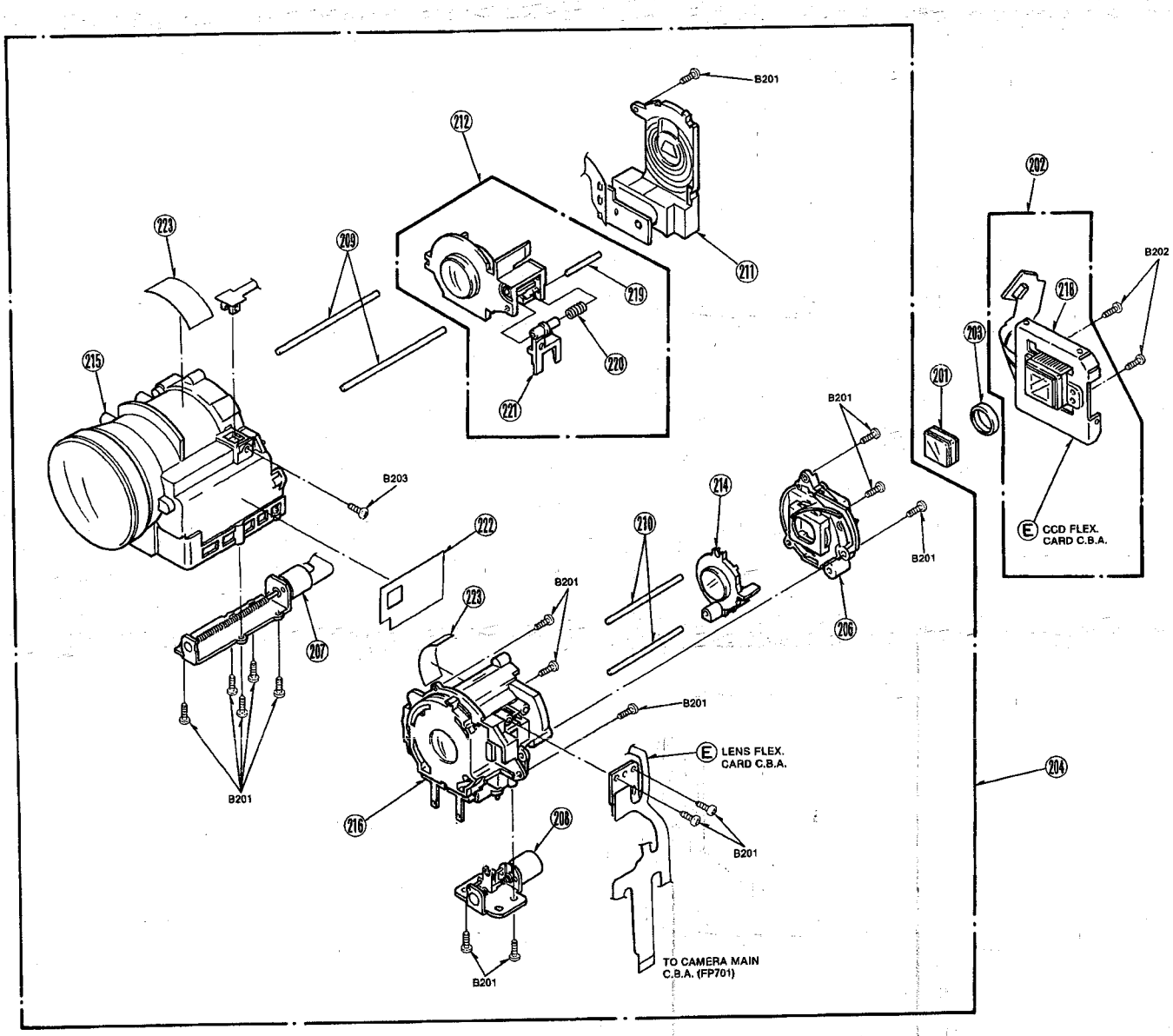


Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark (!) have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
151 (3)		VXA5725	GARAGE U.	1	
152 (3)		VXA5199	HOLDER U.	1	
153 (3)		VXA4863	GARAGE (1) U.	1	
154 (3)		VXA4510	STAND (L) U.	1	
155 (3)		VXA4511	PHOTO (L) U.	1	
156 (3)		VXA5000	STAND (R) U.	1	
158 (3)		VXL2222	TAPE GUIDE U.	1	
159 (3)		VXP1472	DUMPER	1	
160 (3)		VMB2367	UP SPRING (R)	1	
161 (3)		VMB2368	UP SPRING (L)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
173 (3)		VWU0548	PHOTO FLEX.CARD	1	
174 (3)		VDG0827	DUMPER RELAY GEAR	1	
175 (3)		VML2580	TAPE OPEN LEVER	1	
176 (3)		VDP1406	ARM HOLDER	2	
178 (3)		VMB2498	TAPE GUIDE SPRING	1	
B151 (3)		VHD0776	SCREW	1	
B153 (3)		XQN14+BF2	SCREW	2	
B154 (3)		VHD0838	SCREW	4	
B155 (3)		XQN16+AJ8	SCREW	1	
B156 (3)		XQN14+CM2	SCREW	1	
B157 (3)		XQS14+A25FZ	SCREW	1	
W151 (3)		VMX1042	WASHER	6	
W152 (3)		VMX1061	WASHER	3	

❹ CAMERA LENS SECTION

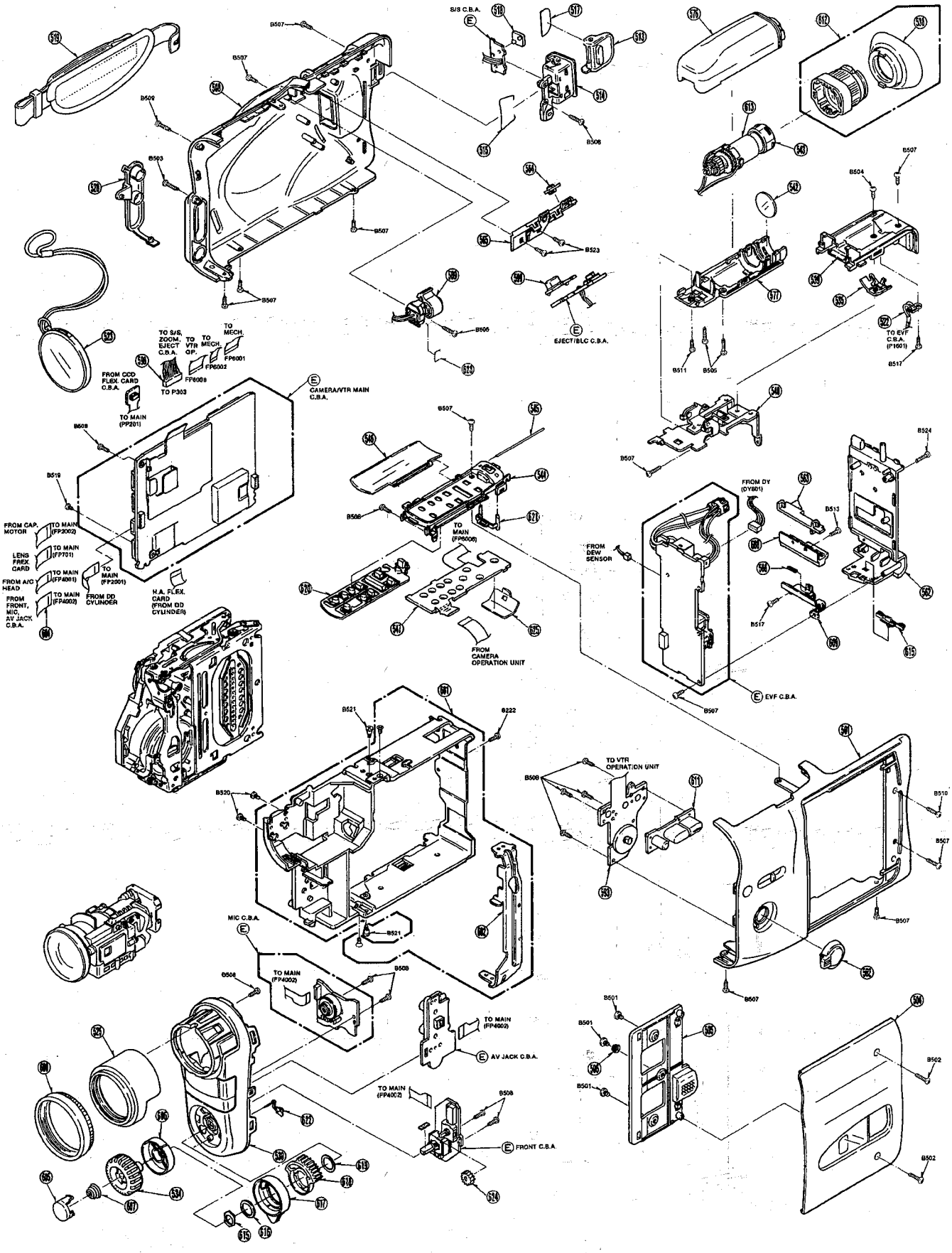


Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
201 (4)		VDL0419	CRYSTAL FILTER	1	
202 (4)		VEK7055	CCD UNIT	1	
203 (4)		VMX2376	CCD CUSHION	1	
204 (4)		VXW0322	LENS U.	1	
206 (4)		VDW0319	CRYSTAL MOUNT PLATE	1	
207 (4)		VEM0601	ZOOM MOTOR U.	1	
208 (4)		VEM0451	FOCUS MOTOR U.	1	
209 (4)		VMS5735	2 GUIDE POLE	2	
210 (4)		VMS5736	F GUIDE POLE	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
211 (4)		VXL2445	IRIS U.	1	
212 (4)		VXP1554	2ND. MOVING FRAME U.	1	
214 (4)		VXP1555	4TH. MOVING FRAME U.	1	
215 (4)		VXQ0440	MAIN FRAME U.	1	
216 (4)		VXQ0441	3RD.LENS FRAME U.	1	
218 (4)		VSC3671	CCD SHIELD CASE	1	
219 (4)		VMS5734	RACK G. P	1	
220 (4)		VMB2796	2ND. SPRING	1	
221 (4)		VML2911	2ND. RACK	1	
222 (4)		VMA9343	PLUMBIC SHEET (A)	1	
223 (4)		VMA9344	PLUMBIC SHEET (B)	1	
B201 (4)		XQN16+CJ5	SCREW	15	
B202 (4)		XQN16+CJ6	SCREW	2	
B203 (4)		VHD0852	SCREW	1	

❺ FRAME & CASING PARTS SECTION

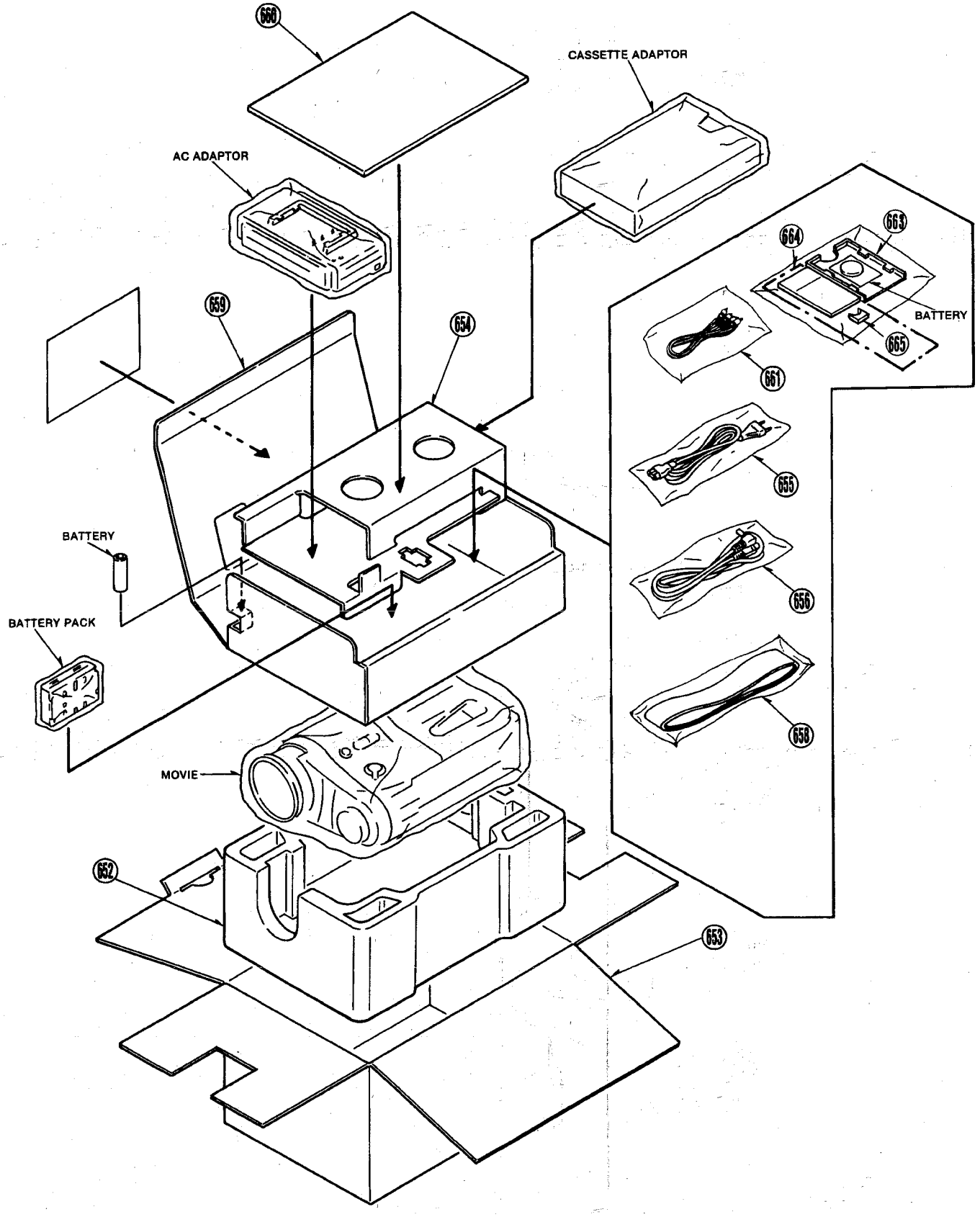


Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
501 (5)		VKM4416	SIDE CASE (R)	1	
502 (5)		VXU1404	AE DIAL U.	1	
504 (5)		VYK7016	CASSETTE COVER (1) U.	1	
505 (5)		VGU7177	CASSETTE LOCK BUTTON	1	
506 (5)		VMB2604	CASSETTE COIL SPRING	1	
508 (5)		VYK7036	SIDE CASE (L)(1) U.	1	
509 (5)		VXU1437	ZOOM BUTTON U.	1	
513 (5)		VXU1398	S/S BUTTON U.	1	
514 (5)		VGQ4084	S/S BUTTON HOLDER	1	
515 (5)		VMB2594	S/S BUTTON COVER SPRING	1	
517 (5)		VGQ4206	S/S BUTTON SHEET	1	
518 (5)		VMG0833	RUBBER SW	1	
519 (5)		VYC0618	GRIP BELT U.	1	
520 (5)		VKF2566	AV JACK COVER	1	
522 (5)		VEK5550	DEW SENSOR	1	
523 (5)		VYF2326	HOOD COVER U.	1	
525 (5)		VYK6776	LENS COVER U.	1	
530 (5)		VYK7019	FRONT CASE (2) U.	1	
534 (5)		VGU7172	FOCUS KNOB	1	
535 (5)		VGQ4136	EVF LOCK PIECE	1	
538 (5)		VMG0631	EYE CAP	1	
539 (5)		VKM4315	EVF MOUNT PANEL	1	
540 (5)		VYK6784	EVF ROTARY ANGLE U.	1	
542 (5)		VKW2178	PROTECTION PANEL	1	
543 (5)		M01LGM07WB02	CRT	1	
544 (5)		VYK6861	TOP PANEL (1) U.	1	
545 (5)		VMS5382	SHAFT	1	
546 (5)		VKF2525	VTR DOOR	1	
547 (5)		VEK7809	VTR OPERATION U.	1	
562 (5)		VKM4350	REAR CASE	1	
563 (5)		VGQ4118	BATTERY LOCK	1	
564 (5)		VGU7169	EJECT KNOB	1	
565 (5)		VGQ4201	EJECT C.B.A. HOLDER	1	
566 (5)		VMB2386	BATTERY LOCK SPRING	1	
576 (5)		VKM4308	EVF CASE (UPPER)	1	
577 (5)		VKM4309	EVF CASE (LOWER)	1	
593 (5)		VEK7880	CAMERA OPERATION UNIT	1	
598 (5)		VEE9660	S/S/ ZOOM /EJECT CABLE U.	1	
599 (5)		VMG0979	BACK LIGHT BUTTON	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
600 (5)		VYQ1299	LENS HOOD U.	1	
601 (5)		VYQ1275	MAIN FRAME U.	1	
604 (5)		VJB00Y12	FRONT FPC	1	
605 (5)		VGU7175	MF SELECT BUTTON	1	
606 (5)		VGQ4156	MF SELECT PIECE	1	
607 (5)		VMB2988	MF SELECT BUTTON SPRING	1	
608 (5)		VGQ2607	BATTERY LOCK HOLDER	1	
609 (5)		VMP4948	BATTERY LOCK HOLD ANGLE	1	
611 (5)		VMG0999	CAMERA OPERATION BUTTON	1	
612 (5)		VYK6780	FINDER CASE U.	1	
613 (5)		ELY05V584A	DY	1	
615 (5)		VGU7207	AGS KNOB	1	
616 (5)		VMX2247	SPACER	1	
617 (5)		VGU7267	SELECT KNOB	1	
618 (5)		VDG1194	SELECT GEAR	1	
619 (5)		VMX2288	SELECT KNOB SPACER	1	
620 (5)		VGU7247	VTR OPERATION BUTTON	1	
621 (5)		VGL0725	TOP PANEL LIGHT	1	
622 (5)		VGQ4077	MF SELECT HINGE	1	
623 (5)		VGQ4225	ZOOM BARRIER	1	
624 (5)		VDG1024	SW GEAR	1	
625 (5)		VGQ4227	TOP BLINDING BARRIER	1	
B501 (5)		VHD0794	SCREW	3	
B502 (5)		XQN2+CF7FZ	SCREW	1	
B503 (5)		XQN2+CJ12FZ	SCREW	1	
B504 (5)		XQN16+CG4	SCREW	1	
B505 (5)		XQN16+CG8FZ	SCREW	2	
B506 (5)		XQN2+CJ8	SCREW	2	
B507 (5)		XQN2+CJ6FZ	SCREW	14	
B508 (5)		XQN2+CJ6	SCREW	12	
B509 (5)		XQN2+CJ8FZ	SCREW	1	
B510 (5)		XQN2+CF4FZ	SCREW	1	
B511 (5)		XQN2+C3FZ	SCREW	1	
B513 (5)		XQN2+BF4	SCREW	1	
B517 (5)		XQN2+CJ4	SCREW	2	
B519 (5)		XTB2+4F	SCREW	1	
B520 (5)		VHD1033	SCREW	2	
B521 (5)		VHD0713	SCREW	2	
B522 (5)		XQN2+C3	SCREW	1	
B523 (5)		XQN2+CJ5	SCREW	2	
B524 (5)		XQN2+CF12FZ	SCREW	1	
N501 (5)		XNS9	NUT (FOR VR)	1	

❻ PACKING PARTS & ACCESSORIES SECTION



Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
652 (6)		VPN4367	CUSHION (LOWER)	1	
653 (6)		VPG8484	PACKING	1	NV-RX6EN
653 (6)		VPG8485	PACKING	1	NV-RX6ENH
654 (6)		VPN4453	ACCESSORIES PAD	1	
655 (6)		VJA0664	AC CORD	1	<!>NV-RX6EN
655 (6)		VJA0733	AC CORD	1	<!>NV-RX6ENH
656 (6)		VJA0769	DC OUTPUT CABLE	1	
658 (6)		VFC1757	SHOLDER STRAP	1	
659 (6)		VPN4452	ACCESSORIES BOX	1	
660 (6)		VQT6532	OPERATING INSTRUCTIONS	1	<!>
			(ENGLISH/CHINESE/ARABIC		
			/RUSSIAN)		
661 (6)		VFA0039	AV CORD	1	
663 (6)		VGQ6893	REMOTE CONTROLLER HOLDER	1	
664 (6)		VEQ1697	REMOTE CONTROLLER	1	
665 (6)		VJF1262	BATTERY COVER	1	
			****** JIG & TOOLS ******		
			-------- ELECTRICAL -------		
		VFMB180HUPF	VHS-C ALIGMENT TAPE	1	PAL
		VFK0374	COLOUR TEMP.CONV.FILRTER	1	(C12) OR VFK0713
		VEK0375	COLOUR TEMP.CONV.FILRTER	1	(C2) OR VFK0716
		VFK0644	EVR FIXTURE	1	
		VFK0701ROM33	ROM	1	
		VFK0756A	EVR CONNECTION CABLE 5P	1	
		VFK0734W	MEASURENT CABLE 24P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VFKW0F0033	ATTACHMENT CABLE	2	OR VFK0670
		VFKW0F0055	ATTACHMENT CABLE	2	
		VFKW0F0001	COMMON CABLE	2	
		VFKW0F0128	ATTACHMENT CABLE	1	OR VFK0978
		VFKW0F0127	ATTACHMENT CABLE	1	
		VFKW0F0001	COMMON CABLE	1	
		VFKW0F0118	ATTACHMENT CABLE	1	OR VFK0929
		VFKW0F0117	ATTACHMENT CABLE	1	
		VFKW0F0001	COMMON CABLE	1	
		VFKW0F0132	ATTACHMENT CABLE	1	OR VFK0980
		VFKW0F0131	ATTACHMENT CABLE	1	
		VFKW0F0001	COMMON CABLE	1	
		VFKW0F0111	ATTACHMENT CABLE	1	OR VFK013
		VFKW0F0112	ATTACHMENT CABLE	1	
		VFKWCF0001	COMMON CABLE	1	
		VFKW0F0140	ATTACHMENT CABLE	1	
		VFKW0F0139	ATTACHMENT CABLE	1	
		VFKW0F0001	COMMON CABLE	1	
		VFK0668	EXTENSION CABLE	1	
			------ MECHANICAL ------		
		VFK0743	H-POSITION ADJUSTMENT	1	
		VFK0824	ASTERISK TYPE RENCH	1	
		VFK0335	RETAINING RING REMOVER	1	
		VFK0329	POST ADJ. SCREW DRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLTONE GREASE	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1019	ECUM1E474ZFM	C.CAPACITOR CH 25V 0.47U	1	
C1020	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1022	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1024	ECUM1C155ZFN	C.CAPACITOR CH 16V 1.5U	1	
C1025	ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C1026	ECEV1HA010	E.CAPACITOR 50V 1U	1	
C1027	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C1028	ECEV1HAR47	E.CAPACITOR 50V 0.47U	1	
C1029	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1030	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1031	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1032	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1033-35	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	3	
C1036	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1037	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1040,41	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C1042	ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1051	ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C1055	ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1057	ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1064	ECEV1AG330S	E.CAPACITOR 10V 33U	1	
C1066	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1071	ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C1073	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1080,81	ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
C1112	ECUM1A335KBP	C.CAPACITOR CH 10V 33U	1	
C2001	ECEV1HA010	E.CAPACITOR 50V 1U	1	
C2002	ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C2003	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C2004	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C2005	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C2007	ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C2009	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C2010	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C2011	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C2012,13	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C2014	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C2015-17	ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	3	
C2018	ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C2020-22	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	3	
C2023	ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C2025-27	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	3	
C2028	ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C2029	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2033	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2040-42	ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	3	
C2043	ECUX1C1042FV	C.CAPACITOR CH 16V 0.1U	1	
C2070	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3001	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3002	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C3003	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3004	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3005	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C3006	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C3007	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3008	ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	1	
C3010	ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3011,12	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3013	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3014	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3016	ECUX1H271JCV	C.CAPACITOR CH 50V 270P	1	
C3017	ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C3018	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3019	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C3020	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3021	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3022	ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C3023	ECST0JY335Z	T.CAPACITOR 6.3V 3.3U	1	
C3024	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C3026	ECST0JY335Z	T.CAPACITOR 6.3V 3.3U	1	
C3028	ECEV0GA471	E.CAPACITOR CH 4V 470U	1	
C3029	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3032	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C3033	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3034	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3035	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3036	ECST1AY225Z	T.CAPACITOR 10V 2.2U	1	
C3037	ECEV1AAN100	E.CAPACITOR CH 10V 10U	1	
C3038	ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3048	ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C3049	ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3050	ECUX1H040CCV	C.CAPACITOR CH 50V 4P	1	
C3051	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3052,53	ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	2	
C3080	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4001,02	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4003	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4006,07	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4008	ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4009	ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C4010	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4011	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4012	ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C4013	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4014	ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C4015	ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C4016	ECUM2A472JCM	C.CAPACITOR CH100V 4700P	1	
C4017	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4018	ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4019	ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C4020	ECUX1C153KBV	C.CAPACITOR CH 16V 0.015U	1	
C4021	ECST1CY335Z	T.CAPACITOR CH 16V 3.3U	1	
C4022	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4023	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4024	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4025	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C4026	ECST1VY334Z	T.CAPACITOR CH 35V 0.33U	1	
C4027	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C4028	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4029	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4030	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4031	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4032	ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C4033	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4034	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C4035	ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C4036	ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4037	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C5001-04	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C5005-08	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	4	
C5009,10	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5011	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C5012	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5013	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5014	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5016	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5017	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5018	ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5019	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5020,21	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5022	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5023	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5041	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5053	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5501	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C5504	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5506	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5508	ECUX1H010CCV	C.CAPACITOR CH 50V 1P	1	
C5509	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C5510	ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C5511	ECST1EY474Z	T.CAPACITOR CH 25V 0.47U	1	
C5512	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C5513	ECUM1E683KBN	C.CAPACITOR CH 25V 0.068U	1	
C5514	ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C5515	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C5516	ECST1AY225Z	T.CAPACITOR 10V 2.2U	1	
C5517	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5518	ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C5519	ECST0GY226Z	T.CAPACITOR 4V 22U	1	
C5520	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	

4-2. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark (!) have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP23293G	CAMERA/MAIN C.B.A.	1	(RTL)
			(Page:4-10)		
		VEP28229K	E.V.F. C.B.A.	1	(RTL)
			(Page:4-16)		
		VEP22250B	CCD FLEX. CARD C.B.A.	1	(RTL)
			(Page:4-17)		
		VEK7799	LENS FLEX. CARD C.B.A.	1	(RTL)
			(Page:4-17)		
		VEK7706	MIC C.B.A.	1	(RTL)
			(Page:4-17)		
		VEP00X57A	AV JACK C.B.A.	1	(RTL)
			(Page:4-18)		
		VEP00X54B	EJECT C.B.A.	1	(RTL)
			(Page:4-18)		
		VEP00V80A	S/S C.B.A.	1	(RTL)
			(Page:4-18)		
		VEP00X56C	FRONT C.B.A.	1	(RTL)
			(Page:4-18)		
	■	VEP23293G	CAMERA/MAIN C.B.A.		(RTL)
C201		ECRJA010A11	V.CAPACITOR 10P	1	
C202		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C203		ECUX1H030CCV	C.CAPACITOR CH 50V 3P	1	
C204		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C205		ECUX1H040CCV	C.CAPACITOR CH 50V 4P	1	
C206-09		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	4	
C210		ECEV0GA470	E.CAPACITOR CH 4V 47U	1	
C212		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C213,14		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	2	
C215		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C216		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C217		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C218		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C219		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C220		ECST1AX156Z	T.CAPACITOR 10V 15U	1	
C221		ECST1CK685Z	T.CAPACITOR CH 16V 68U	1	
C222		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C223		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C225		ECST1GX155Z	T.CAPACITOR 40V 1.5U	1	
C226		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C228		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C229		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C230		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C232		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C233		ECST1CY475Z	T.CAPACITOR 16V 4.7U	1	
C234		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C235		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C236		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C237		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C238		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C239,40		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	2	
C241		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C242		ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C243		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C244		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C245		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C246		ECUM1C185ZFN	C.CAPACITOR CH 16V 1.8U	1	
C248		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C249		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C250		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C251		ECUX1H040CCV	C.CAPACITOR CH 50V 4P	1	
C252		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C253		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C260,61		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	2	
C262		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C263		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C264		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C271		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C301		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C302,03		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C304		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C305		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C307		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C308		ECUX1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
C309		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C310		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C312		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C315		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C319		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C320		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C321		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C322		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C326		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C328		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C329		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C330		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C331,32		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C334,35		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C337		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C338,39		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C340,41		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C342		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C344		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C346		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C369		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C371		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C373		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C374		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C375		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C376		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C377		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C378		ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C701		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C702		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C703		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C704		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C705		ECEV1CA101	E.CAPACITOR 16V 100U	1	
C706		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C707		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C708		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C709,10		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	2	
C719		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C720		ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C721		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C722		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C751		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C752		ECEV0JA101	E.CAPACITOR CH 6.3V 100U	1	
C753		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1002,03		ECUM1A335KBP	C.CAPACITOR CH 10V 33U	2	
C1004		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1005		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1008		ECUM1A335KBP	C.CAPACITOR CH 10V 33U	1	
C1009		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1010		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1012		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C1014		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C1015		ECEV1AA101U	E.CAPACITOR 10V 100U	1	
C1017		ECUM1E105KB	C.CAPACITOR CH 50V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L704		VLQ0319K220	COIL 22UH	1	
L1001		VLQ0759	COIL	1	
L1002		VLQ0760	COIL	1	
L1003		VLQ0763	COIL	1	
L1004		VLQ0319K100	COIL 10UH	1	
L1006		VLQ0319F150	COIL 15UH	1	
L1007		VLQ0770	COIL	1	
L1008		VLQ0763	COIL	1	
L1010		VLQ0319K100	COIL 10UH	1	
L1011		VLQ0319K101	COIL 100UH	1	
L1012		VLQ0319K100	COIL 10UH	1	
L1014		VLQ0319K100	COIL 10UH	1	
L1015		VLQ0319K470	COIL 47UH	1	
L1062		VLQ0762	COIL	1	
L3001		VLQ0163J121	COIL 120UH	1	
L3002		VLQ0319F150	COIL 15UH	1	
L3003		VLQ0426J820	COIL 82UH	1	
L3004		VLQ0426J680	COIL 68UH	1	
L3005		VLQ0319K101	COIL 100UH	1	
L3006		VLQ0426J220	COIL 22UH	1	
L3007		VLQ0426J150	COIL 15UH	1	
L3010		VLQ0163J151	COIL 150UH	1	
L3011		VLQ0426J220	COIL 22UH	1	
L3021		VLQ0319K101	COIL 100UH	1	
L4005,06		VLQ0319K101	COIL 100UH	2	
L5001		VLQ0319K101	COIL 100UH	1	
L5002,03		VLQ0319K470	COIL 47UH	2	
L5004		VLQ0319K101	COIL 100UH	1	
L5501		VLQ0319F150	COIL 15UH	1	
L5502		VLQ0426J330	COIL 33UH	1	
L5503		VLQ0426J100	COIL 10UH	1	
L5504		ELJFC150JB	COIL 15UH	1	
L5505		VLQ0163J121	COIL 120UH	1	
L5506		VLQ0319K101	COIL 100UH	1	
L5508		VLQ0163J471	COIL	1	
L6002		VLQ0319K101	COIL 100UH	1	
L6008		VLQ0163J330	COIL 33UH	1	
P303		VJP3172D010	CONNECTOR (MALE) 10P	1	
PP201		VJP3358A012	CONNECTOR (MALE)	1	
PP302		VJP2962A024	CONNECTOR (MALE) 24P	1	
PP3001		VJP3358C016	CONNECTOR (MALE) 16P	1	
PS1001		VJS2961A024	CONNECTOR (FEMALE) 24P	1	
Q201		2SD1819	TRANSISTOR	1	
Q202		2SB798	TRANSISTOR	1	
Q203		2SB1073	TRANSISTOR	1	
Q204		2SB1462	TRANSISTOR	1	
Q304		XP4601	TRANSISTOR-RESISTOR	1	
Q307,08		2SD2216	TRANSISTOR	2	
Q309		2SB1462	TRANSISTOR	1	
Q310		2SC4627	TRANSISTOR	1	
Q311		2SD2216	TRANSISTOR	1	
Q701		2SD601A	TRANSISTOR	1	
Q702		2SD2216	TRANSISTOR	1	
Q703-06		XN4404	TRANSISTOR	4	
Q751		2SD1030	TRANSISTOR	1	
Q1001		2SA1731-R	TRANSISTOR	1	
Q1003		MPL1	TRANSISTOR	1	
Q1004		2SD2210	TRANSISTOR	1	
Q1062		MPL1	TRANSISTOR	1	
Q3001		XN4501	TRANSISTOR-RESISTOR	1	
Q3002		XN4401	TRANSISTOR-RESISTOR	1	
Q3003,04		2SC4627	TRANSISTOR	2	
Q3008		2SD2216	TRANSISTOR	1	
Q3009		2SB1462	TRANSISTOR	1	
Q3010		2SD2216	TRANSISTOR	1	
Q3011		2SD1819	TRANSISTOR	1	
Q3012		2SD2216	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q4002		2SD602-R	TRANSISTOR	1	
Q4003		2SB1219	TRANSISTOR	1	
Q4005		XP6501	TRANSISTOR-RESISTOR	1	
Q4006		2SD2216	TRANSISTOR	1	
Q4009		2SD2216	TRANSISTOR	1	
Q5001,02		XN4504	TRANSISTOR-TRANSISTOR	2	
Q5003		2SA812	TRANSISTOR	1	
Q5004		2SD1328-S	TRANSISTOR	1	
Q5502		XP4601	TRANSISTOR-RESISTOR	1	
Q6001,02		2SD2216	TRANSISTOR	2	
Q6005		XP6501	TRANSISTOR-RESISTOR	1	
Q6006		2SB1462	TRANSISTOR	1	
Q6201		2SB1462	TRANSISTOR	1	
QR301,02		MRN1103	TRANSISTOR-RESISTOR	2	
QR303-05		MRN1104	TRANSISTOR-RESISTOR	3	
QR307		XP1212	TRANSISTOR-TRANSISTOR	1	
QR701		MRN1102	TRANSISTOR-RESISTOR	1	
QR1001		MRN2102	TRANSISTOR-RESISTOR	1	
QR1061		MRN2111	TRANSISTOR-RESISTOR	1	
QR2002		MRN1111	TRANSISTOR-RESISTOR	1	
QR3002		MRN1104	TRANSISTOR-RESISTOR	1	
QR3006		MRN1104	TRANSISTOR-RESISTOR	1	
QR3008		MRN1103	TRANSISTOR-RESISTOR	1	
QR3010		MRN1103	TRANSISTOR-RESISTOR	1	
QR4001		MRN1103	TRANSISTOR-RESISTOR	1	
QR4002		MRN2103	TRANSISTOR-RESISTOR	1	
QR5502		UN2130X	TRANSISTOR-RESISTOR	1	
QR5503		MRN1103	TRANSISTOR-RESISTOR	1	
QR6001		MRN2104	TRANSISTOR-RESISTOR	1	
QR6002		MRN2111	TRANSISTOR-RESISTOR	1	
QR6003		MRN2103	TRANSISTOR-RESISTOR	1	
QR6004		XP4115	TRANSISTOR-RESISTOR	1	
QR6006		MRN1104	TRANSISTOR-RESISTOR	1	
QR6007		MRN1102	TRANSISTOR-RESISTOR	1	
QR6010		XP1213	TRANSISTOR-RESISTOR	1	
QR6012		MRN1103	TRANSISTOR-RESISTOR	1	
QR6014		UN9210	TRANSISTOR-RESISTOR	1	
QR6015		MRN1111	TRANSISTOR-RESISTOR	1	
QR6050		XP1211	TRANSISTOR-RESISTOR	1	
R200		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R201		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R202		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R203		ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R204		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R205		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R206		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R207		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R208-10		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	3	
R211		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R213		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R214		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R215,16		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R217		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R218		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R219-22		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	4	
R223		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R226		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R227		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R232		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R233		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R235,36		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
R237		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R238		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R239		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R241		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R242		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R243		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R244		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R246		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R248,49		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R251		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5521		ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C5522		ECST0JY3352	T. CAPACITOR 6.3V 3.3U	1	
C5523		ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C5524,25		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C5526		ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C5528		ECUX1C273KBV	C. CAPACITOR CH 16V 0.027U	1	
C5529		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C5530		ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C5540		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C6001-04		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	4	
C6005		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C6006-08		ECUX1H100CCV	C. CAPACITOR CH 50V 10P	3	
C6009		ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C6010		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C6011		ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C6012		ECUX1H070CCV	C. CAPACITOR CH 50V 7P	1	
C6013		ECUX1H100CCV	C. CAPACITOR CH 50V 10P	1	
C6014,15		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	2	
C6016		ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6018		ECUX1H010CCV	C. CAPACITOR CH 50V 1P	1	
C6020		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C6022,23		ECUX1H221JCV	C. CAPACITOR CH 50V 220P	2	
C6025		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C6026		ECEV1CA470P	E. CAPACITOR CH 16V 47U	1	
C6027		ECEV0GA101	E. CAPACITOR CH 4V 100U	1	
C6029		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C6030		ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6031-33		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	3	
C6037		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C6038		ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C6039		ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C6040		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C6041,42		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C6060		ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C6100		ECEV1CA100	E. CAPACITOR CH 16V 10U	1	
C6201,02		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	2	
C6203		ECEV1CA100	E. CAPACITOR CH 16V 10U	1	
C6204		ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C6205		ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C6206		ECEV0GA101	E. CAPACITOR CH 4V 100U	1	
C6207		ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C6208		ECUX1H223ZFV	C. CAPACITOR CH 50V 0.022U	1	
C6209		ECEV0JA220	E. CAPACITOR 6.3V 22U	1	
C6210		ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
D200		MA728	DIODE	1	
D201		1SS355	DIODE	1	
D215		1SS355	DIODE	1	
D216		MA728	DIODE	1	
D301-07		MA728	DIODE	7	
D1002		EC20QS06	DIODE	1	
D1006,07		MA132K	DIODE	2	
D1015		U1FWJ44N	DIODE	1	
D3001		MA133	DIODE	1	
D3002		1SS355	DIODE	1	
D3003		MA132WK	DIODE	1	
D3004		1SS355	DIODE	1	
D3005		MA132WA	DIODE	1	
D5001		MA729	DIODE	1	
D5002		MA723VT	DIODE	1	
D6001,02		MA728	DIODE	2	
D6004		MA8056	DIODE	1	
D6011		MA132WK	DIODE	1	
D6012,13		MA132WA	DIODE	2	
D6016		MA133	DIODE	1	
D6018		MA728	DIODE	1	
D6201		1SS355	DIODE	1	
FL201		ELB3H018	FILTER	1	
FP701		VJS3319D018	CONNECTOR (FEMALE) 18P	1	
FP2001		VJS3828C007	CONNECTOR (FEMALE) 7P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
FP2002		VJS2960A018	CONNECTOR (FEMALE) 18P	1	
FP4001		VJS2958D009	CONNECTOR (FEMALE) 9P	1	
FP4002		VJS3320B026	CONNECTOR (FEMALE) 26P	1	
FP5001		VJS2959B013	CONNECTOR (FEMALE) 13P	1	
FP6001		VJS2959B018	CONNECTOR (FEMALE) 18P	1	
FP6002		VJS2959B006	CONNECTOR (FEMALE) 6P	1	
FP6006		VJS3319D021	CONNECTOR (FEMALE) 21P	1	
IC201		VEFH43A	IC	1	
IC202		MN5225	IC	1	
IC204		M52946FP	IC	1	
IC205		SC7S08F	IC	1	
IC206		TC7W04F	IC	1	
IC207		TC7SU04F	IC	1	
IC208,09		SC7S08F	IC	2	
IC211,12		SC7S04F	IC	2	
IC301		TC7S32F	IC	1	
IC302		MN67323	IC	1	
IC303		TC7S86F	IC	1	
IC304		AN2043SB	IC	1	
IC305		MN1866405M7W	IC	1	
IC306		MN67335	IC	1	
IC307		M62352GP	IC	1	
IC309		AK6440HF	IC	1	
IC310		MM1166AF	IC	1	
IC311		NN4792FBP	IC	1	
IC701,02		TB6526F	IC	2	
IC706		NJM2115VA	IC	1	
IC711		TA75W01FU	IC	1	
IC751		TA75S393F	IC	1	
IC1001		BA9706K	IC	1	
IC2001		TB6518F	IC	1	
IC2002,03		UN224	TRANSISTOR-RESISTOR	2	
IC3001		HA118401F	IC	1	
IC4001		BA7758FS	IC	1	
IC5001		AN3355FHP	IC	1	
IC5501		MSM7470-73MS	IC	1	
IC6001		MN67554B6M7X	IC	1	
IC6002		S3510ANFJ	IC	1	
IC6003		UPD6462GS614	IC	1	
IC6004		RH5RE38AA	IC	1	
IC6005		BA6289F	IC	1	
IC6006		TA75W393FU	IC	1	
IC6007		S2900AUP	IC	1	
IC6008		TC7W04F	IC	1	
IC6009		PST9133NR	IC	1	
IC6010		BU4066BCFV	IC	1	
L201		VLQ0464	COIL	1	
L202		VLP0146	COIL	1	
L203		VLQ0426J330	COIL 33UH	1	
L204-06		VLQ0426J150	COIL 15UH	3	
L209		VLQ0426J680	COIL 68UH	1	
L210		VLQ0426J150	COIL 15UH	1	
L215		VLP0154	COIL	1	
L220		VLP0146	COIL	1	
L230,31		VLP0154	COIL	2	
L301		VLQ0426J120	COIL 12UH	1	
L302		VLP0171	COIL	1	
L303		VLP0140	COIL	1	
L304,05		VLQ0464	COIL	2	
L307,08		VLQ0464	COIL	2	
L309		VLP0171	COIL	1	
L310,11		VLQ0464	COIL	2	
L313,14		VLP0175	COIL	2	
L315		VLQ0464	COIL	1	
L317		VLQ0464	COIL	1	
L319		VLP0175	COIL	1	
L320		ELJFC150JB	COIL 15UH	1	
L321		VLQ0464	COIL	1	
L324		VLQ0426J150	COIL 15UH	1	
L701		VLQ0319K220	COIL 22UH	1	
L703		VLQ0319F150	COIL 15UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2007	ERJ8GEYJR47	M.RESISTOR CH 1/8W 0.47	1	
R2008	ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2009	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R2010	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2012	ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R2015	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R2016	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2017	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2018	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R2019,20	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	2	
R2021	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R2022	ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2024	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R2040-42	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	3	
R3001	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3002	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R3003	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R3004	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3005	VRE0082A682	M.RESISTOR CH 1/10W 6.8K	1	
R3007	VRE0082A222	M.RESISTOR CH 1/10W 2.2K	1	
R3008-10	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R3012	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3013	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3014	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3015	VRE0082A562	M.RESISTOR CH 1/10W 5.6K	1	
R3016	VRE0082A473	M.RESISTOR CH 1/10W 47K	1	
R3017	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3018	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3020	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3021	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3022	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3023	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3025	VRE0082A681	M.RESISTOR CH 1/10W 680	1	
R3026	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3027	VRE0082A391	M.RESISTOR CH 1/10W 390	1	
R3028	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3031,32	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R3034	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3040	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3049	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3051	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3052	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3057	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3058	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3059	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3060	VRE0071E820	M.RESISTOR CH 1/10W 82	1	
R3063	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3070	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4001	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4002	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4003	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4004	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4006	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R4007	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4008	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4009	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4010	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4011	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4012	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4013	ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R4014	VRE0071E153	M.RESISTOR 15K	1	
R4016,17	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R4018	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4019	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4020	VRE0071E431	M.RESISTOR CH 1/10W 430	1	
R4021	VRE0071E562	M.RESISTOR 5.6K	1	
R4022	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4023	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4025	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4026	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R4027,28	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4029	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4030,31	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R4032	VRE0071E272	M.RESISTOR CH 1/10W 2.7K	1	
R4033	VRE0071E152	M.RESISTOR CH 1/10W 1.5K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4034,35	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R4036,37	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R4038	ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R4040	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4042	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4048	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R5001	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R5002,03	ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	2	
R5004	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5005	VRE0082A113	M.RESISTOR CH 1/10W 11K	1	
R5006	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R5007	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R5008	ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R5009	ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R5012,13	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R5501	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5502,03	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R5504	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5505	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5507	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5509	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5510	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R5512	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R5514	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5515	VRE0082A681	M.RESISTOR CH 1/10W 680	1	
R5516	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R5517	VRE0082A121	M.RESISTOR CH 1/10W 120	1	
R5520	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R5522	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R5523	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R5528	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5550	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6001	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R6002	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6003	ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R6004	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R6005,06	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R6007	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R6008	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6009	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6010	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6013	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6014	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R6015	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6016	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6020	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R6021	ERJ8GEYJ120	M.RESISTOR CH 1/8W 12	1	
R6022	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6023	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6024	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6025,26	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6027	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6028,29	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6030	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6031	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6032	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6033	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6034	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6035	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6036	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6037	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6038	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R6039	ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
R6040,41	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R6042	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R6043	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6044	VRE0082A223	M.RESISTOR CH 1/10W 22K	1	
R6045	VRE0082A333	M.RESISTOR CH 1/10W 33K	1	
R6046	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6047	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6048,49	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R6050	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6055	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6056	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6057	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R253		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R254		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R255		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R259		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R261		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R263,64		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R265		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R266		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R267		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R268		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R270		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R272		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R273		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R274		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R275		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R277		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R278		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R279		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R280		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R281		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R283		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R284		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R286		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R287		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R289		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R294		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R295		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R296		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R301		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R302		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R304		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R305		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R306,07		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R308		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R309		ERJ3GEYJ4R7	M.RESISTOR CH 1/16W 4.7	1	
R310		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R311		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R317		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R318		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R319		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R321-23		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R324		ERJ3GEYG201	M.RESISTOR CH 1/16W 200	1	
R325		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R326		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R327		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R329		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R330		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R333		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R334,35		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R337		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R338		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R339		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R340-42		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	3	
R343		ERJ3GEYG181	M.RESISTOR CH 1/16W 180	1	
R344		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R345		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R346		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R347		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R348		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R349		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R350		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R351,52		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	2	
R359		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R360-62		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	3	
R363		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R364		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	1	
R365		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R367,68		ERJ2GEJ152	M.RESISTOR CH 2W 1.5K	2	
R369		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R370		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R372		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R373		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R374		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R376		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R394-97		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R398,99		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R401		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R402		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R403		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R701,02		ERJ3GEYJ3R3	M.RESISTOR CH 1/16W 3.3	2	
R703		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R705,06		ERJ3GEYJ3R3	M.RESISTOR CH 1/16W 3.3	2	
R707		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R708,09		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R716		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R718		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R719		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R720,21		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R722		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R723		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R724		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R726		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R727		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R728		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R729		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R730		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R731		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R732		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R733		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R734,35		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R736		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R737		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R738		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R740		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R741		ERJ3GEYJ824	M.RESISTOR CH 1/16W 820K	1	
R751		ERJ3GEYJ335	M.RESISTOR CH 1/16W 3.3M	1	
R752		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R753		ERJ3GEYG113	M.RESISTOR CH 1/16W 11K	1	
R754		ERJ3GEYG183	M.RESISTOR CH 1/16W 18K	1	
R761		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R1001		VRE0067G822	M.RESISTOR 8.2K	1	
R1002		VRE0067G272	M.RESISTOR 2.7K	1	
R1005		VRE0071E562	M.RESISTOR 5.6K	1	
R1006		VRE0071E272	M.RESISTOR CH 1/10W 2.7K	1	
R1007		ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R1008		ERJ3RBD223	M.RESISTOR CH 1/16W 22K	1	
R1009		VRE0071E152	M.RESISTOR CH 1/10W 1.5K	1	
R1012		VRE0067G20C	M.RESISTOR CH 1/10W	1	
R1013		VRE0067G393	M.RESISTOR 39K	1	
R1014,15		VRE0067G182	M.RESISTOR 1.8K	2	
R1016		VRE0071E153	M.RESISTOR 15K	1	
R1017		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1018		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1019		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1020		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1021		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R1022		ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	1	
R1023		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R1024		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1025		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1035		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1038		VRE0071E430	M.RESISTOR CH 1/10W 43	1	
R1039		VRE0071E361	M.RESISTOR CH 1/10W 360	1	
R1040		VRE0071E121	M.RESISTOR CH 1/10W 120	1	
R1051		VRE0071E273	M.RESISTOR CH 1/10W 27K	1	
R1052		VRE0071E473	M.RESISTOR CH 1/10W 47K	1	
R1063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1065		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R1071		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1072		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R1073		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1085,86		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R1090		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1180		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R2001		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2002		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R2003		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2004		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R2005		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R2006		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6058		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6059		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6062,63		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R6064		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R6065		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R6066		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6067		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R6068		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R6069		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R6070		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6071		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6072		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6073		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6074		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6075		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R6076		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6077		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6079		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6080		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6081		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6083		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6085		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6086		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6087		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6088		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6089		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R6090		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R6091		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R6092		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6093		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6095		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R6097		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6098		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6099		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6100		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6101		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6144		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6145		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R6154		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6201		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6202		ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
R6203		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6204		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6205		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6206-08		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	
R6209		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6210		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R6211		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
RA301-04		EXBV8V102J	RESISTOR-RESISTOR	4	
RA305,06		EXBV8V473J	RESISTOR-RESISTOR	2	
RA311,12		EXBV8V102J	RESISTOR-RESISTOR	2	
RA313		EXBV8V473J	RESISTOR-RESISTOR	1	
RA314,15		EXBV8V102J	RESISTOR-RESISTOR	2	
RA316		EXBV4V473J	RESISTOR-RESISTOR	1	
RA317,18		EXBV8V102J	RESISTOR-RESISTOR	2	
RA319		EXBV4V473J	RESISTOR-RESISTOR	1	
RA320		EXBV4V472J	RESISTOR-RESISTOR	1	
RA321		EXBV4V152J	RESISTOR-RESISTOR	1	
RA322		EXBV4V102J	RESISTOR-RESISTOR	1	
RA323		EXBV8V152J	RESISTOR-RESISTOR	1	
RA324		EXBV4V472J	RESISTOR-RESISTOR	1	
RA6001		EXBV8V102J	RESISTOR-RESISTOR	1	
RA6002		EXBV8V473J	RESISTOR-RESISTOR	1	
RA6003		EXBV4V102J	RESISTOR-RESISTOR	1	
RA6004,05		EXBV8V102J	RESISTOR-RESISTOR	2	
RA6006		EXBV8V683J	RESISTOR-RESISTOR	1	
RA6007		EXBV8V102J	RESISTOR-RESISTOR	1	
RA6008		EXBV4V102J	RESISTOR-RESISTOR	1	
T1001		ELL04T061R	COIL	1	
T1002		VIP0357	TRANSFORMER	1	
T4001		EIQ6QB008	TRANSFORMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
X201		VSX0650	CRYSTAL OSCILLATOR	1	
X301		VSX0669	CRYSTAL OSCILLATOR	1	
X5501		VSX0794	CRYSTAL OSCILLATOR	1	
X6001		VSX0654	CRYSTAL OSCILLATOR	1	
X6002,03		VSX0601	CRYSTAL OSCILLATOR	2	
			MISCELLANEOUS		
		VSC3855	POWER SHIELD COVER (TOP)	1	
		VSC3906	POWER SHIELD COVER (BOTT.)	1	
		VSC4082	H.A SHIELD COVER (TOP)	1	
		VSC4083	H.A SHIELD COVER (BOTTOM)	1	
		VSC4441	CAMERA SHIELD COVER (TOP)	1	
		VMZ2278	SCREW BARRIER	1	
		VMZ2236	SHIELD BARRIER	1	
		VMZ2602	H.A SHIELD BARRIER	1	
	■	VEP28229K	E.V.F. C.B.A.		(RTL)
C801		ECQV1H104JL	P.CAPACITOR 50V 0.1U	1	
C802-04		ECUM1C1052FN	C.CAPACITOR CH 16V 1U	3	
C805		ECEA0JKE221	E.CAPACITOR 6.3V 220U	1	
C806		ECUX1C123KBV	C.CAPACITOR CH 16V 0.012U	1	
C807		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C808		ECST0JX475Z	T.CAPACITOR 6.3V 47U	1	
C809		ECA1CKF470	E.CAPACITOR 16V 47U	1	
C810		ECUM2A562JUM	C.CAPACITOR CH 100V 5600P	1	
C811		ECEA0JKE221	E.CAPACITOR 6.3V 220U	1	
C812		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C813		ECUM2J221KBM	C.CAPACITOR CH 630V 220P	1	
C814		ECEA1HSN010	E.CAPACITOR 50V 1U	1	
C815		ECUM2H331KBM	C.CAPACITOR CH 500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C818		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C831		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C861		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C862		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C863		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C1603		ECEV1CA220	E.CAPACITOR CH 16V 22U	1	
C1703,04		ECEV0JA101	E.CAPACITOR CH 6.3V 100U	2	
C1705		ECST1AD476Z	T.CAPACITOR CH 10V 47U	1	
C1706		ECEV0JA101	E.CAPACITOR CH 6.3V 100U	1	
C1708		ECEV0SA470	E.CAPACITOR CH 4V 47U	1	
C1709		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C1710		ECST1AX156Z	T.CAPACITOR 10V 15U	1	
D803		MA142WA	DIODE	1	
D1601		MA8130-M	DIODE	1	
D1603		MA8130-M	DIODE	1	
D1702		EC10QS04	DIODE	1	
D1705		MA141K	DIODE	1	
IC801		AN2516S	IC	1	
IC1701		RN5RG37AA	IC	1	
IC1702		RH5RH492B	IC	1	
J1601		VEK7724	RFU	1	
L802		ELH5L244	COIL	1	
L804		VLQ0163J680	COIL 68UH	1	
L805		VLQ0319K100	COIL 10UH	1	
L806		VLQ0426J330	COIL 33UH	1	
L807		VLQ0319K330	COIL 39UH	1	
L1601,02		VLP0307	COIL	2	
L1701		VLQ0770	COIL	1	
L1702		ELL04T044R	COIL	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L1703		VLQ0770	COIL	1	
P801		VJP1597T	CONNECTOR (MALE) 4P	1	
P803		VJP1596T	CONNECTOR (MALE) 3P	1	
P804		VJP1242T	CONNECTOR (MALE) 2P	1	
P1601		VJP3125D002	CONNECTOR (MALE) 2P	1	
PP1601		VJP3126B024	CONNECTOR (MALE) 24P	1	
Q801		2SB1462	TRANSISTOR	1	
Q802		2SD968A-S	TRANSISTOR	1	
Q803,04		2SA1748	TRANSISTOR	2	
Q805,06		2SD2216	TRANSISTOR	2	
Q1705		2SB1202-S	TRANSISTOR	1	
Q1706		2SD1119	TRANSISTOR	1	
QR881		UN5212	TRANSISTOR-RESISTOR	1	
QR882		UN213OX	TRANSISTOR-RESISTOR	1	
QR1702,03		UN521F	TRANSISTOR	2	
QR1704		UN5112	TRANSISTOR-RESISTOR	1	
R801		ERJ6ENF4422	M.RESISTOR CH 1/10W 2.2K	1	
R802		ERJ6GEYJ3R9	M.RESISTOR CH 1/10W 3.9	1	
R803		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R804		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R805		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R806		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R807		ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	1	
R808		VRE0071E242	M.RESISTOR CH 1/10W 2.4K	1	
R809		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R810		VRE0071E104	M.RESISTOR 100K	1	
R815		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R816,17		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R818		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R819,20		ERJ6GEYJ275	M.RESISTOR CH 1/10W 2.7M	2	
R821		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R823		ERJ3GEYJ120	M.RESISTOR CH 1/16W 12	1	
R829		ERJ6ENF4222	M.RESISTOR CH 1/10W 2.2K	1	
R834		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R835		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R840		ERJ8GEYJ305	M.RESISTOR CH 1/8W 3M	1	
R841,42		ERD21LLJ225	C.RESISTOR 2.2M	2	
R843		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R844		ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R845		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R850		VRE0071E822	M.RESISTOR CH 1/10W 8.2K	1	
R851		VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R852		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R853		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R855		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R861		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R862		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R863		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R864		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
RB83		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R1601		VSF0226D25T	IC PROTECTOR	1	<1>
R1602		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R1603		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R1690		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R1699		ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R1720,21		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R1722		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1723		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R1724		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R1725		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R1726		ERJ3GEYJ622	M.RESISTOR CH 1/16W 6.2K	1	
R1727		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R1731		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1732		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
SW1695		VSQ0851	SWITCH	1	
SW1696		VSS0392	SWITCH	1	
T801		ECXC2802B	TRANSFORMER	1	
VR801		EVM7JSX30BE2	V.RESISTOR	1	
VR803		EVMLRGA00BV6	V.RESISTOR	1	
VR804		EVM7BSX30B55	V.RESISTOR 500K	1	
Z1601		VL2020/1HF	LITHIUM BATTERY	1	
			MISCELLANEOUS		
		VMP4952	DC JACK EARTH ANGLE	1	
		VSC4438	SHIELD COVER (TOP)	1	
		VSC4439	SHIELD COVER (BOTTOM)	1	
	■	VEP22250B	CCD FLEX. CARD C.B.A.		(RTL)
B291		VJS3500C012	CONNECTOR (FEMALE) 12P	1	
C292		ECST1VX225Z	T.CAPACITOR 35V 2.2U	1	
C294		ECUM1E4732FN	C.CAPACITOR 25V 0.047U	1	
C295		ECUM1E104ZFN	C.CAPACITOR 25V 0.1U	1	
D291		MA153	DIODE	1	
Q291		2SC2295	TRANSISTOR	1	
R291		ERJ6GEYG560	M.RESISTOR CH 1/16W 56	1	
R292		ERJ6GEYF152	M.RESISTOR CH 1/16W 1.5K	1	
R293		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
			MISCELLANEOUS		
		VJB22250	FLEX. CARD	1	
	■	VEK7799	LENS FLEX. CARD C.B.A.		(RTL)
			MISCELLANEOUS		
		ON1004-R	PHOTO INTERRUPTER	1	
		SG-211S	PHOTO INTERRUPTER	1	
	■	VEK7706	MIC C.B.A.		(RTL)
C4801		ECUM1C683KBN	C.CAPACITOR CH 16V 0.068U	1	
C4803,04		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	2	
C4806		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4807		ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C4808		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4811		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C6801		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
D6801		BR2202S-20B1	DIODE	1	
FP4801		VJS3623A008W	CONNECTOR (FEMALE) 8P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC6801		VEK6546	IC	1	
J4801		VJJ0289	MIC JACK	1	
Q4801		2SD601A	TRANSISTOR	1	
Q4802		2SC2405	TRANSISTOR	1	
Q4803-05		2SD601A	TRANSISTOR	3	
R4801		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4802		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4803,04		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	2	
R4805		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R4806		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4807		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4808		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R4809		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R4810		ERJ6GEYJ184	M.RESISTOR CH 1/10W 180K	1	
R4811		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4812		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R4816		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4817		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6801		ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R6802		ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
	■	VEP00X57A	AV JACK C.B.A.		(RTL)
C1501		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C1502		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C1504		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C1505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
D1504		MA153	DIODE	1	
FP1501		VJS2582B009	CONNECTOR (FEMALE) 9P	1	
J1501		VEJ1378	AV JACK PLATE	1	
L1501		VLP0171	COIL	1	
L1502		VLQ0584	COIL	1	
L1503		VLP0153	COIL	1	
R1501		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
			MISCELLANEOUS		
		VMP5124	AV EARTH ANGLE	1	
		VMX2600	AV JACK SPACER	1	
	■	VEP00X54B	EJECT C.B.A.		(RTL)
SW511		ESD165236	SWITCH	1	
	■	VEP00V80A	S/S C.B.A.		(RTL)
S6702		ESE103119	SWITCH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP00X56C	FRONT C.B.A.		(RTL)
D501-03		MA121	DIODE	3	
FP501		VJS2949B009	CONNECTOR (FEMALE) 9P	1	
S501		EVQPA205R	SWITCH	1	
S502		VSR0099	SWITCH	1	
VR501		EVJ4Y0FB4B15	V.RESISTOR 100K	1	

ORDER NO. VMD9412M130

Service Manual

General Description
Adjustment Procedures
Disassembly/Assembly
Service Hints

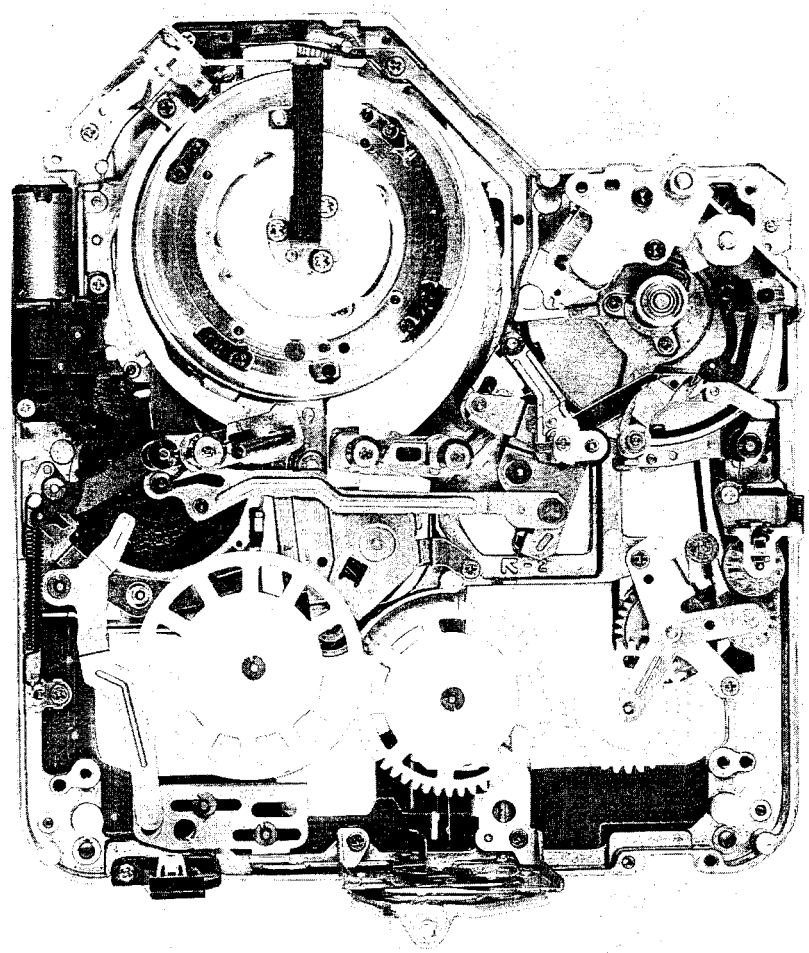
V11317

Panasonic VHSC
SVHSC

VHS-C MOVIE

DL-MECHANISM

(Since 1991 Models)



Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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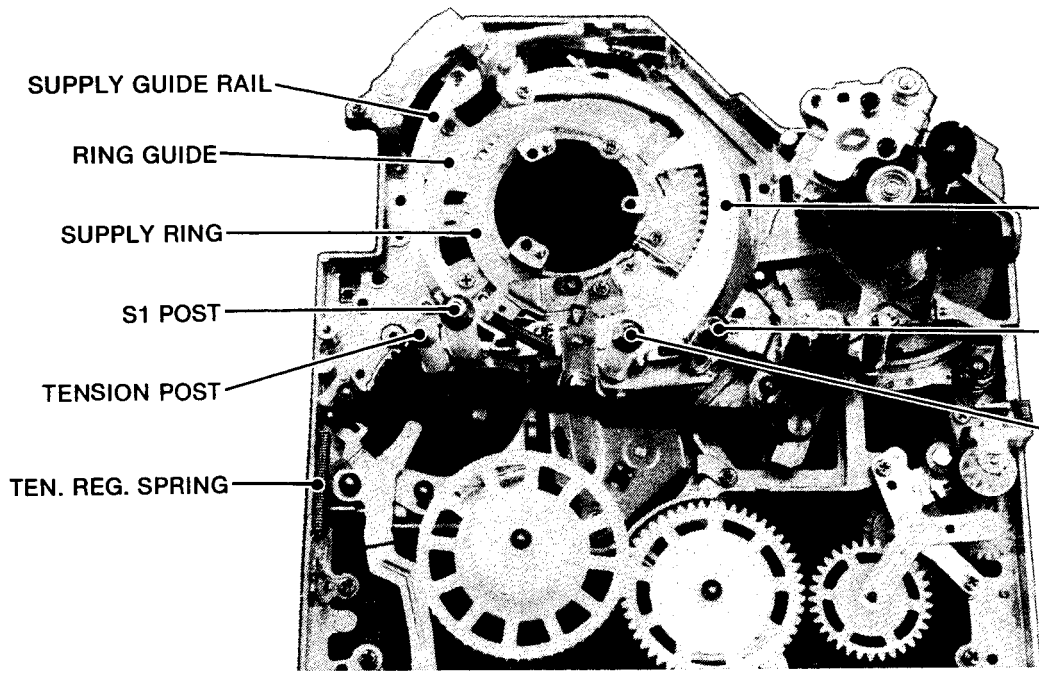
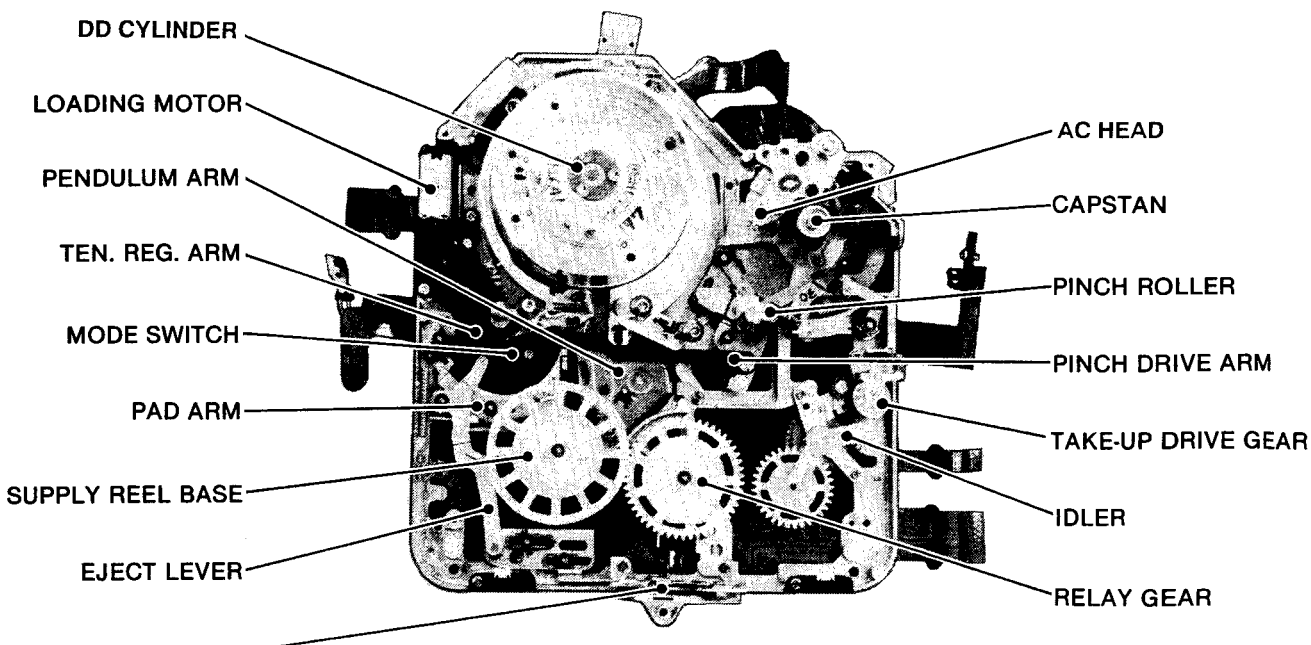
1 MOVEMENT OF MECHANISM

1. Name of Mechanism



* TAKE-UP RING is located underneath of RING GUIDE.



2.Mechanical Operation

2–1. Loading operation

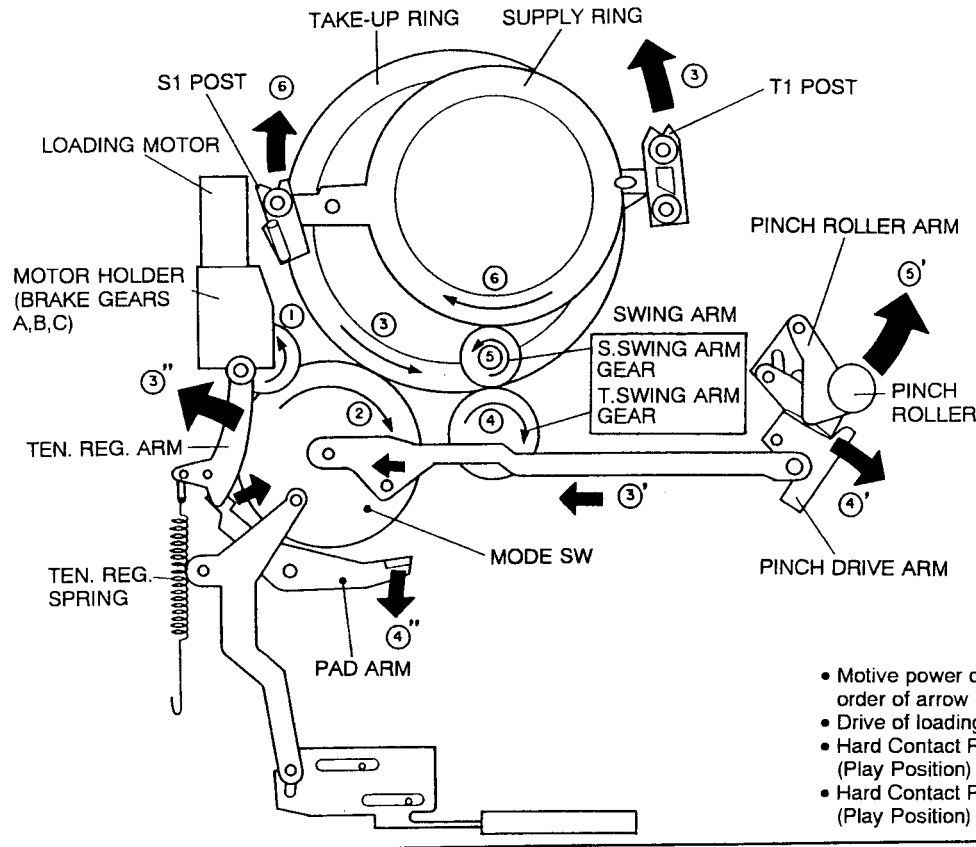

TAKE-UP RING
SUPPLY RING
S1 POST
T1 POST
LOADING MOTOR
PINCH ROLLER ARM
MOTOR HOLDER (BRAKE GEARS A,B,C)
SWING ARM
S.SWING ARM GEAR
T.SWING ARM GEAR
PINCH ROLLER
TEN. REG. ARM
MODE SW
PINCH DRIVE ARM
TEN. REG. SPRING
PAD ARM
• Motive power of loading motor is transferred by order of arrow mark.
• Drive of loading post.
• Hard Contact Pinch Roller with capstan shaft. (Play Position)
• Hard Contact Pad Arm with S.Reel table. (Play Position)

Fig. 1 Loading Mechanism

2–2. Eject operation

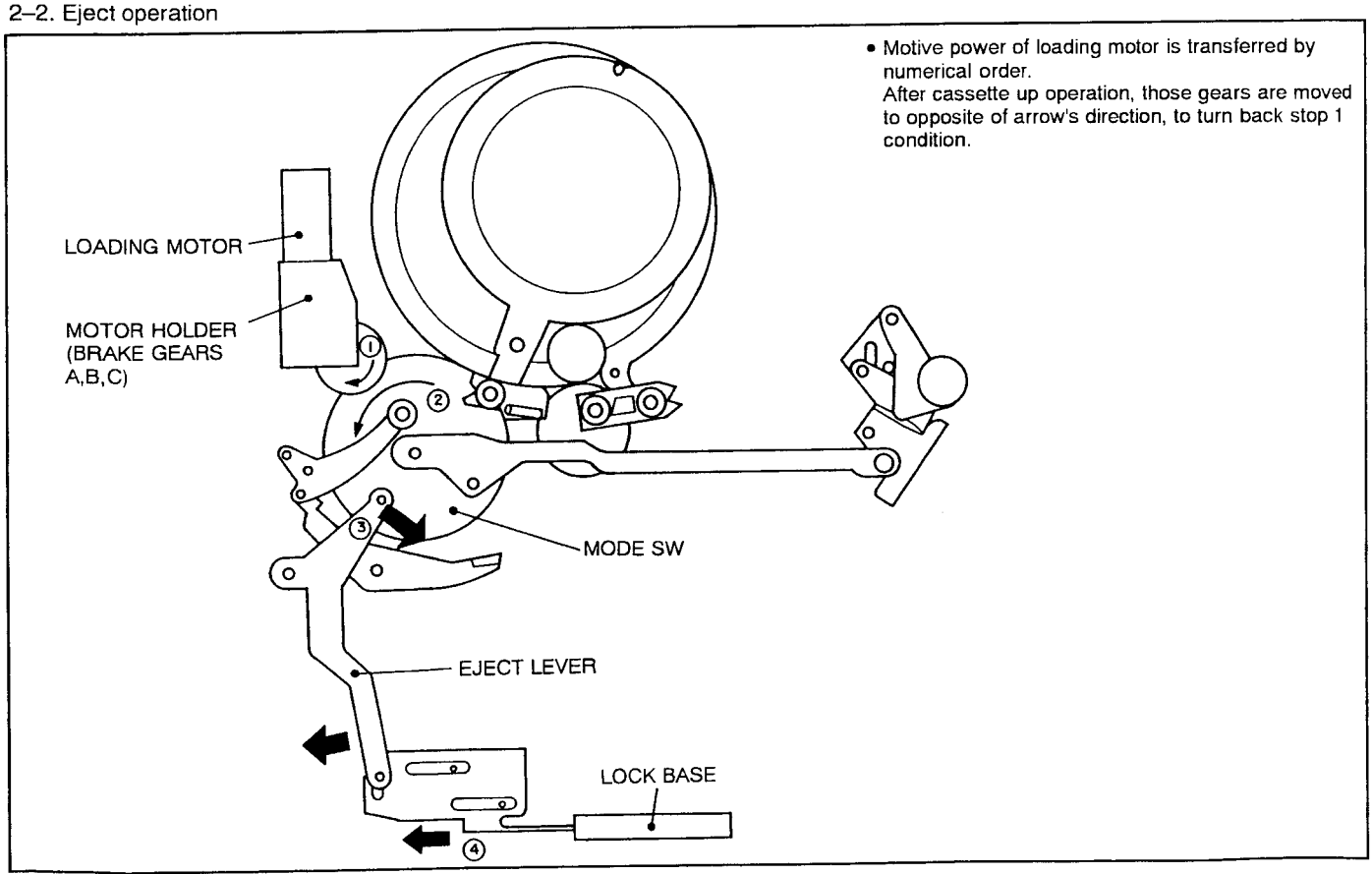

• Motive power of loading motor is transferred by numerical order.
After cassette up operation, those gears are moved to opposite of arrow's direction, to turn back stop 1 condition.
LOADING MOTOR
MOTOR HOLDER (BRAKE GEARS A,B,C)
MODE SW
EJECT LEVER
LOCK BASE

Fig. 2 Unloading Mechanism

3. Movement of Reel Table

3–1. FF operation

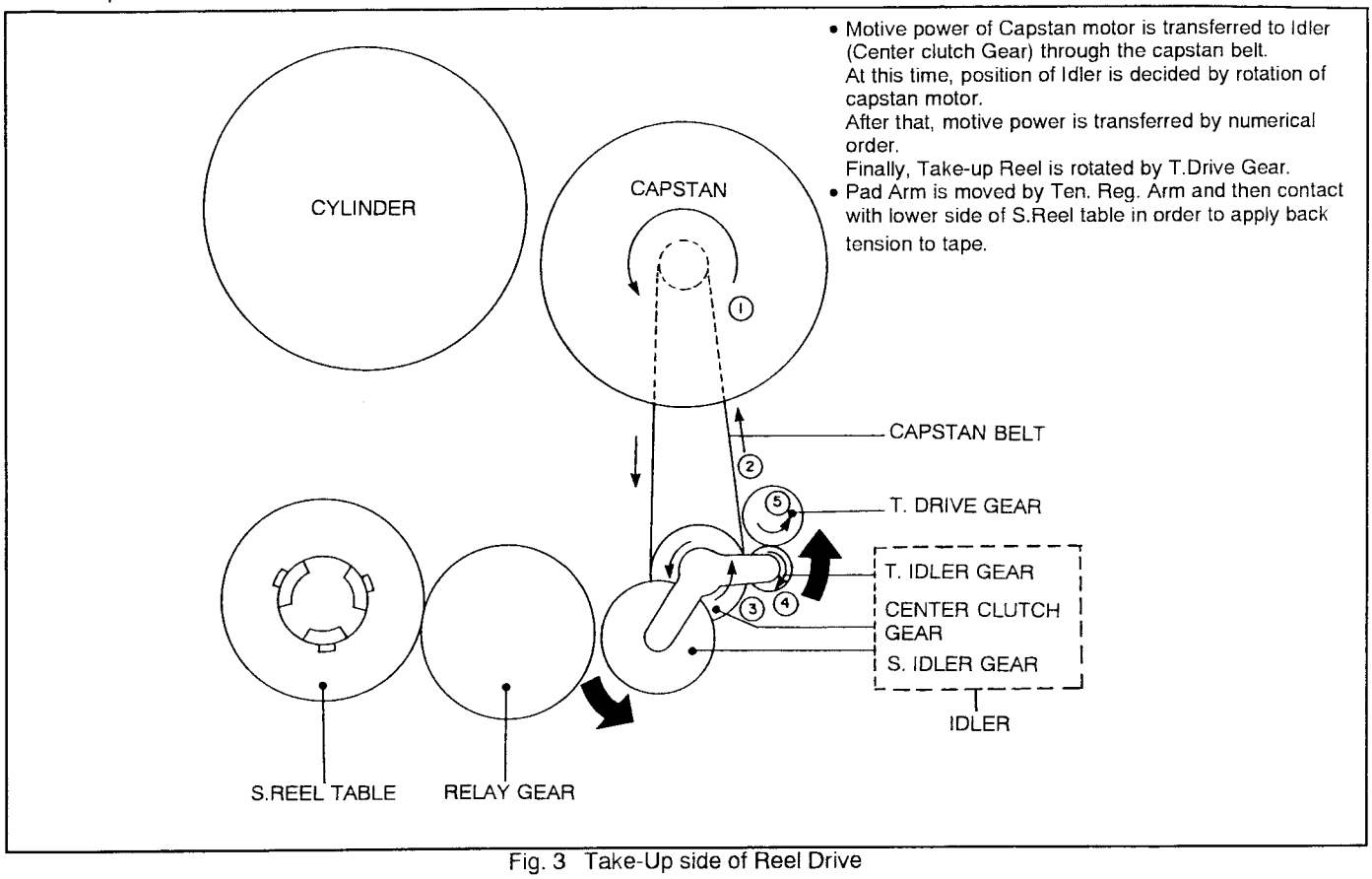

• Motive power of Capstan motor is transferred to Idler (Center clutch Gear) through the capstan belt.
At this time, position of Idler is decided by rotation of capstan motor.
After that, motive power is transferred by numerical order.
Finally, Take-up Reel is rotated by T.Drive Gear.
• Pad Arm is moved by Ten. Reg. Arm and then contact with lower side of S.Reel table in order to apply back tension to tape.
CYLINDER
CAPSTAN
CAPSTAN BELT
T. DRIVE GEAR
T. IDLER GEAR
CENTER CLUTCH GEAR
S. IDLER GEAR
IDLER
S.REEL TABLE
RELAY GEAR

Fig. 3 Take-Up side of Reel Drive

3–2. REW operation

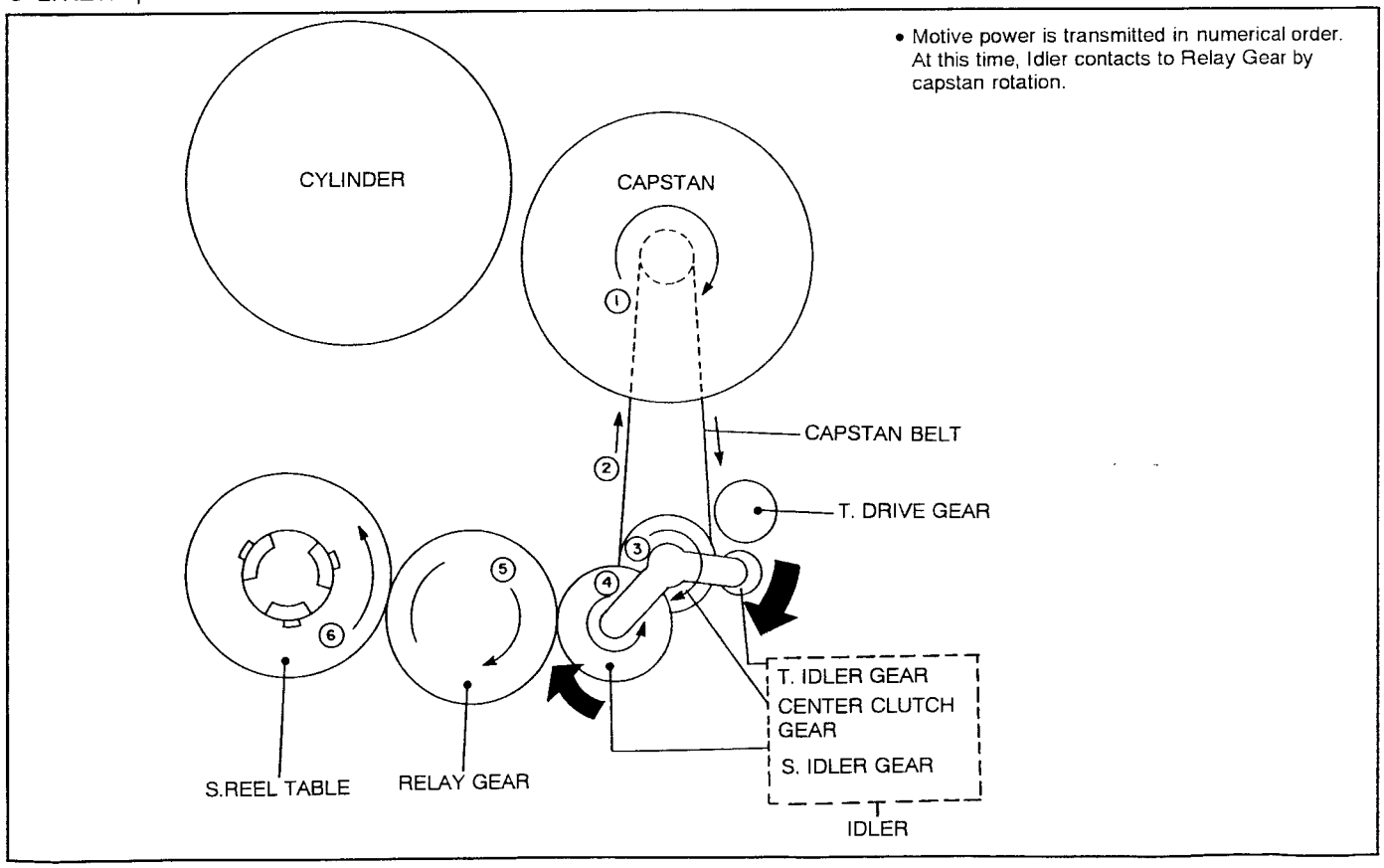


Fig. 4 Supply side of Reel drive

2 ALIGNMENT OF MECHANISM

Following mechanichal phase condition is important for mechanical alignment.

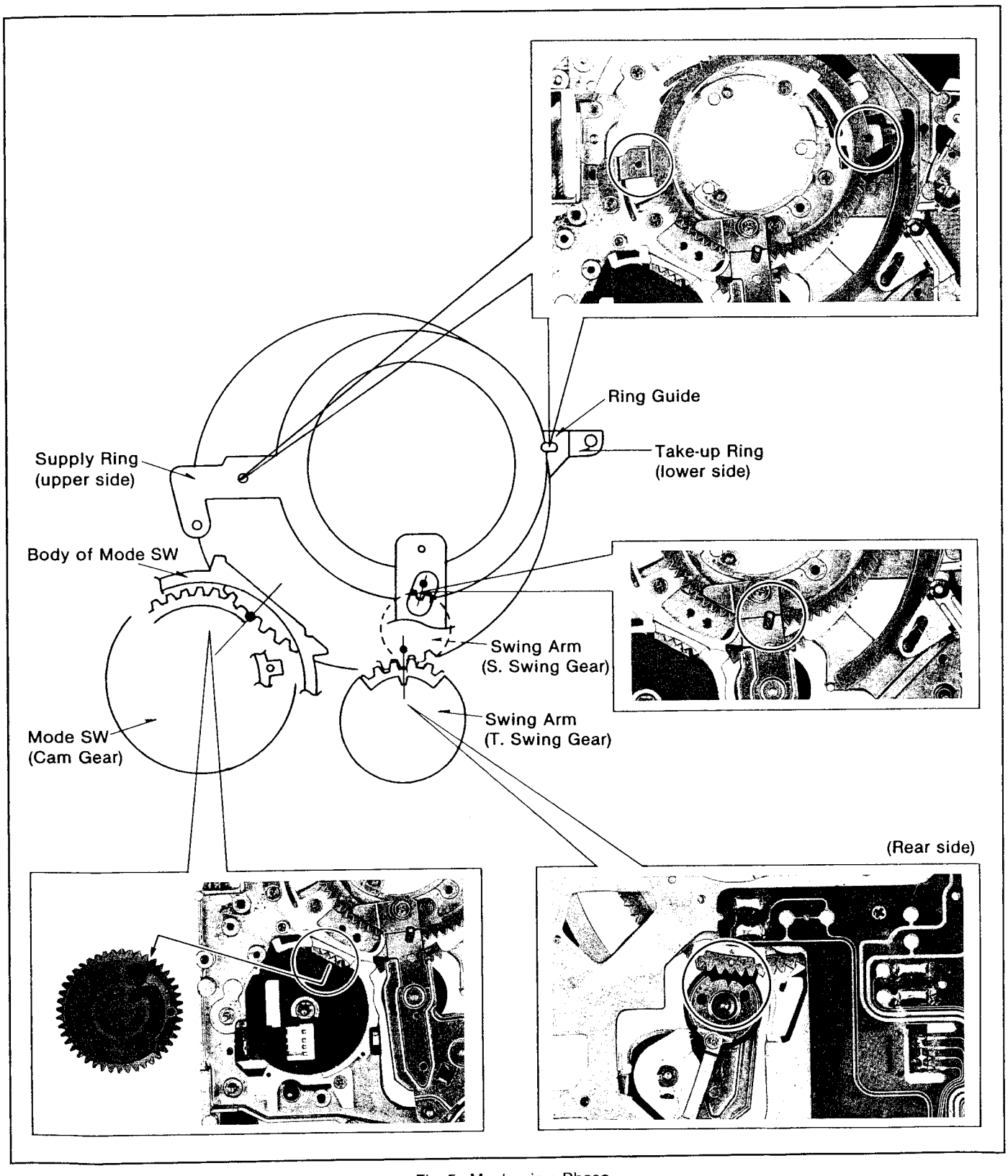
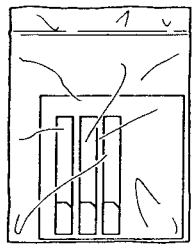
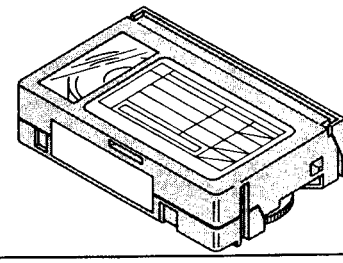
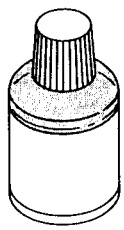
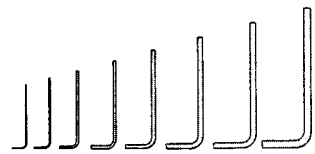
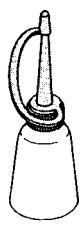
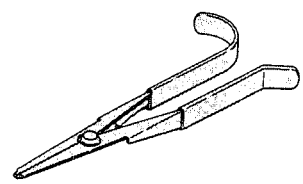
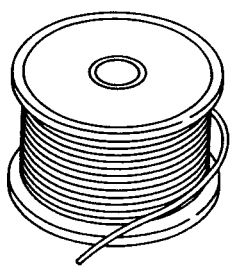
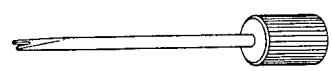
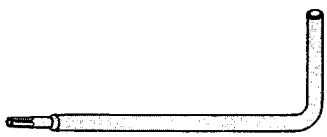
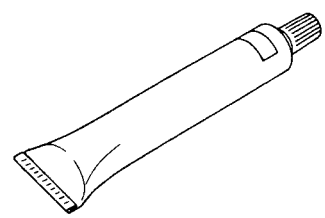


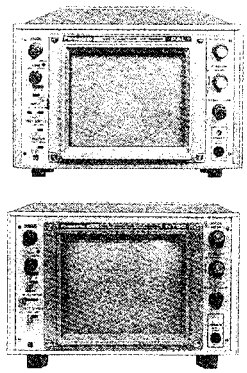
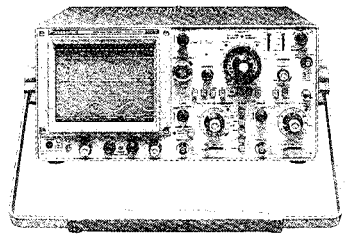
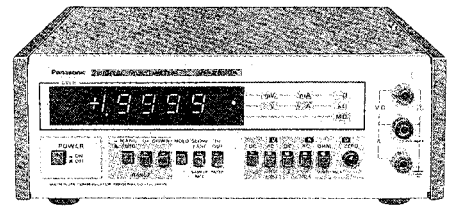
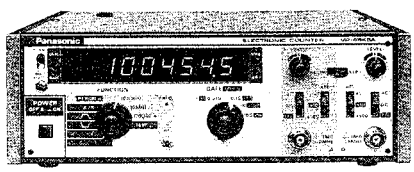
Fig. 5 Mechanism Phase

SERVICING FIXTURES & TOOLS FOR MOVIE CAMERA

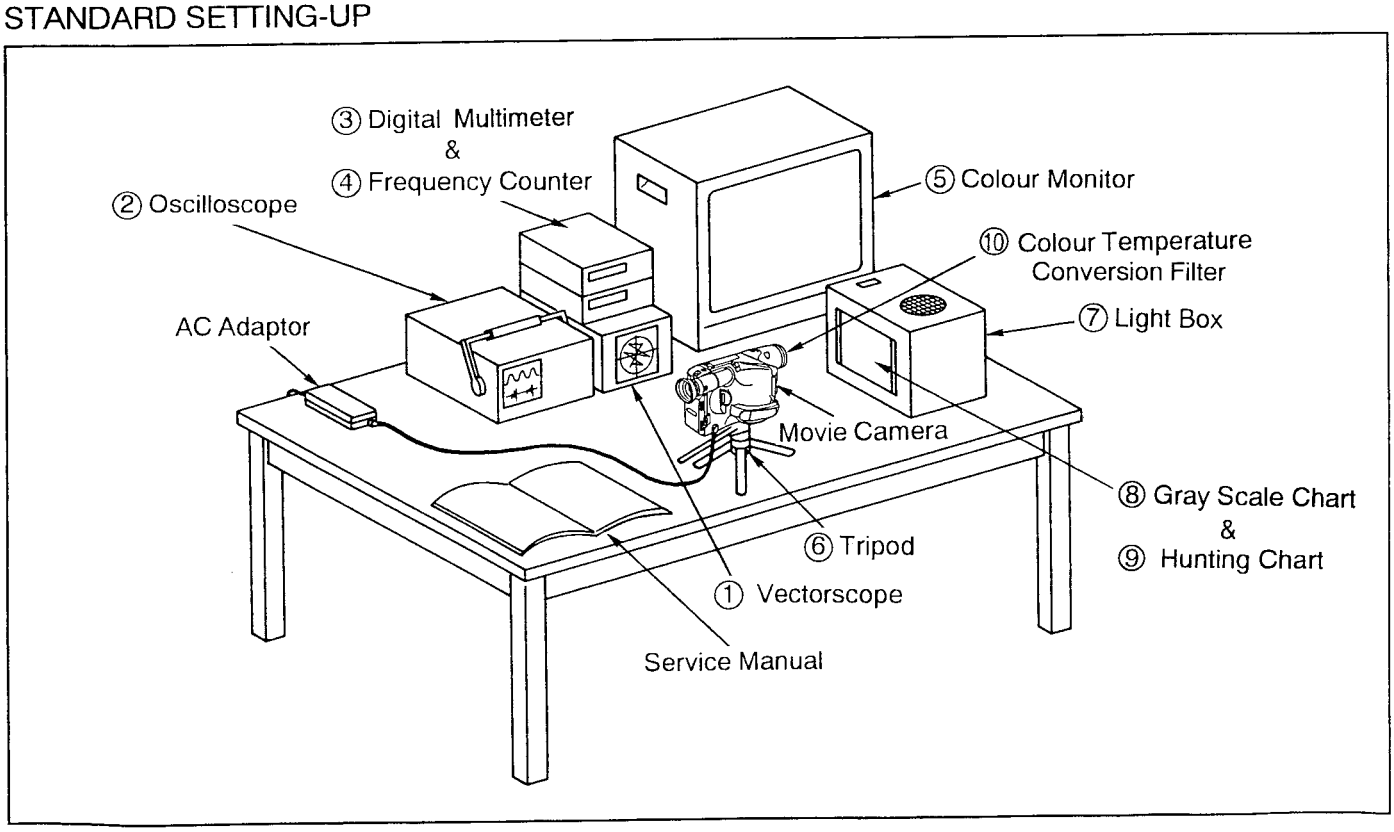
ITEM	PURPOSE	ITEM	PURPOSE
Head Cleaning Stick Order No. VFK27 	For head cleaning	VHS-C Alignment Tape NTSC: Order No. VFM8081HQPP PAL: Order No. VFM8180HUPF 	For 1)Tape Interchangeability adj. 2)Checking colour
Solder Flux Order No. RZZ0320 	For smooth and secure soldering	Hex. Key Wrench set (8 pcs.) Order No. VFK0326  0.7mm,0.9mm,1.2mm,1.5mm, 1.6mm,2.0mm,2.4mm,3.0mm	For height adjustment of Tape Guide Posts
Oil Order No. VFK0131 	For Reel Shaft & Capstan Shaft	Retaining Ring Remover Order No. VFK0335 	For removal of Retaining Ring
0.4mm Solder Order No. VFK0732 	For Soldering flat-pack IC	H-Position Adjustment Driver Order No. VFK0743 	For horizontal position adjustment of A/C Head
Asterisk Wrench Order No. VFK0824 	For A/C Head adj.	Molytone Grease Order No. M0R265 	For moving parts of mechanism

SERVICE MEASUREMENT EQUIPMENTS

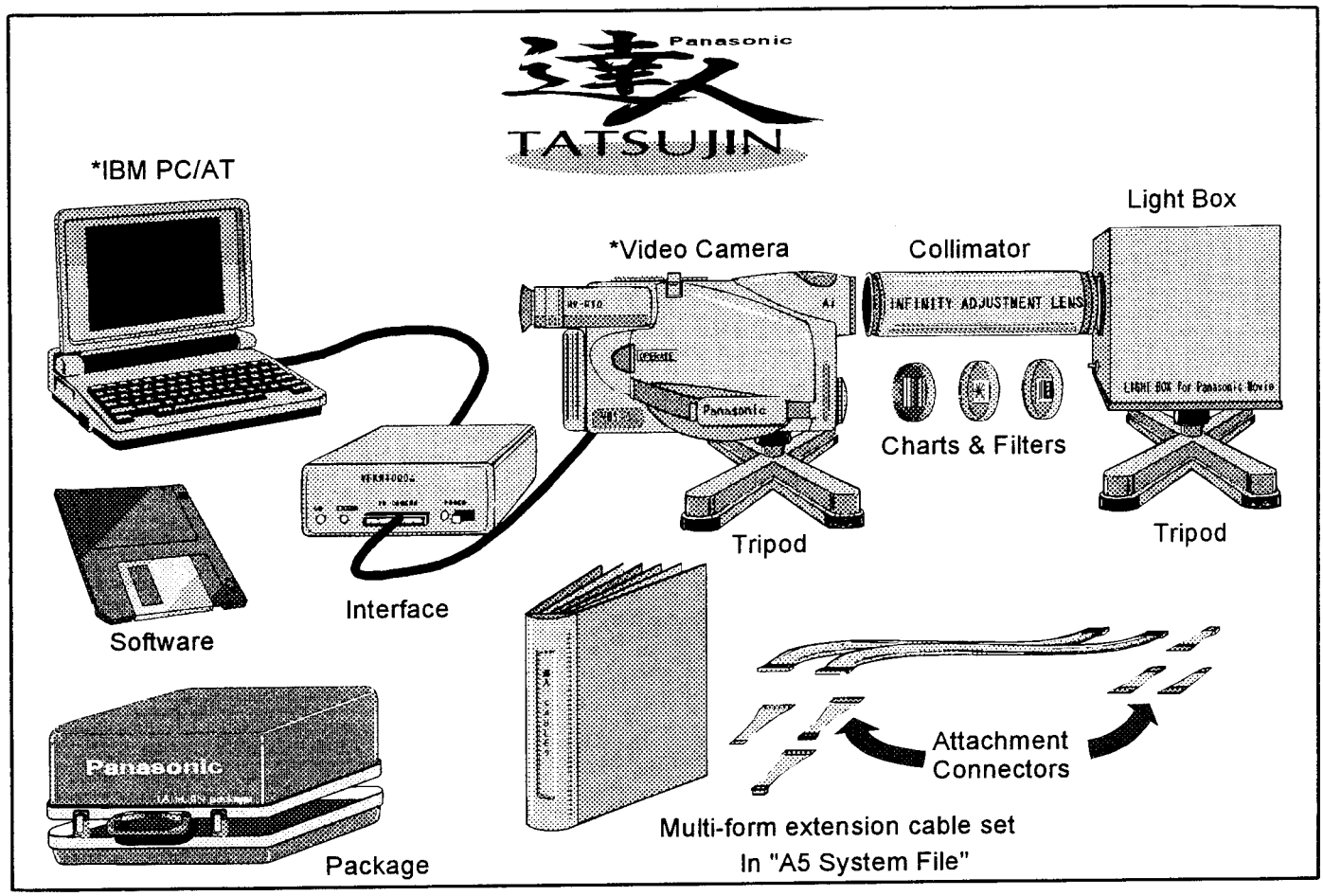
To achieve the movie camera servicing, following adjustment equipments should be required.
(For more detail, please refer to each models Service Manual.)

① **VECTOR SCOPE**	② **OSCILLOSCOPE**	③ **DIGITAL MULTIMETER**
	 CH1,CH2 5mV/div DC~100MHz 2mV/div DC~50MHz 1mV/div DC~25MHz CH1 SIG OUT DC~10MHz CH3 EXT DC~70MHz	 AC: 200mV~500V (5 Range) DC: 200mV~1000V (5 Range) Resistor: 200Ω~20MΩ (6 Range) AC Curent: 200mA,1A (2 Range) DC Curent: 200mA,1A (2 Range)
④ **FREQUENCY COUNTER**	⑤ **COLOUR MONITOR** (Colour TV)	⑩ **COLOUR TEMPERATURE CONVERSION FILTER** (order NO. : VFK0713(C12)) (order NO. : VFK0716(C2))
 CH-A 25mVrms DC~10MHz CH-B 25mVrms DC~100MHz	⑥ **TRIPOD**	
	⑦ **LIGHT BOX** (order NO. :VRD93MLB)	⑪ **EVR FIXTURE** (order NO. : VFK0644)
	⑧ **GRAY SCALE CHART** (order NO. : VFK0871S)	⑫ **COMMUNICATING CABELS** (order NO. : VFK0766A(5P)) (order NO. : VFK0734W(24P))
	⑨ **HUNTING CHART** (order NO. : VFK0546)	⑬ **ROM FOR EVR FIXTURE** (order NO. : VFK0701ROM＊＊)

STANDARD SETTING-UP



NEW SERVICE DEVICE KIT "TATSUJIN" Order NO.: VED95TTJ



A new service device kit for Video Camera, "TATSUJIN" kit, is now available from Panasonic. "TATSUJIN" is a Japanese word witch means a specialist, expert, or master in English. This naming was made because the kit will make you a "TATSUJIN" of Panasonic Video Camera servicing. The "TATSUJIN" kit consists of the following 3 items which are simply organized in a small package. All of which will drastically improve your productivity of Video Camera servicing in terms of Diagnosis, Adjustment, and Confirmation.

1. PC-EVR. (Interface, Software, Connecting Cables)
   It connects a Camera to your IBM PC/AT so that the adjustment and trouble-shooting can be done easily on PC screen. The time used to taken by the camera adjustment will be reduced more than 60%. In addition, its diagnosis support function helps you to improve the service efficiency drastically. The conventional EVR (VFK0644) will be replaced by this new computer-aided system.

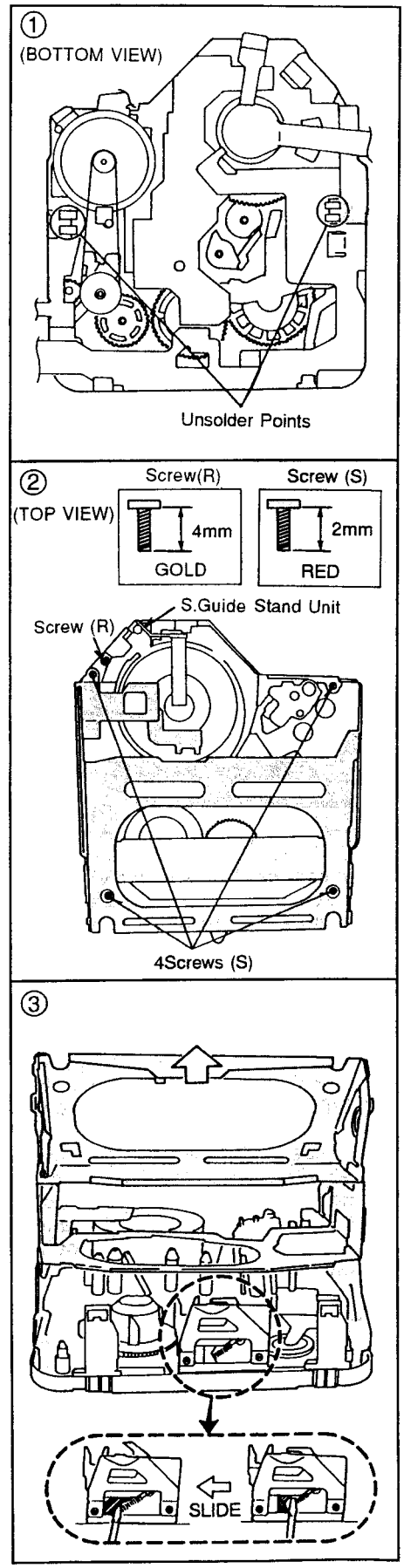
2. Optical Set. (Collimator, Charts & Filters, Light Box, Tripods)
   All of the optical devices which are indispensable to service a camera but used to take a huge space to set up, are now drastically shrunk into a compact "Desk-top space". Now you can easily aim various charts, COLOUR-BAR, GRAY-SCALE, HUNTING, and WHITE, by simply attaching them to the collimator which is inserted in a compact light box. So that you do not have to worry about restricting external light and measuring the distance from the chart.

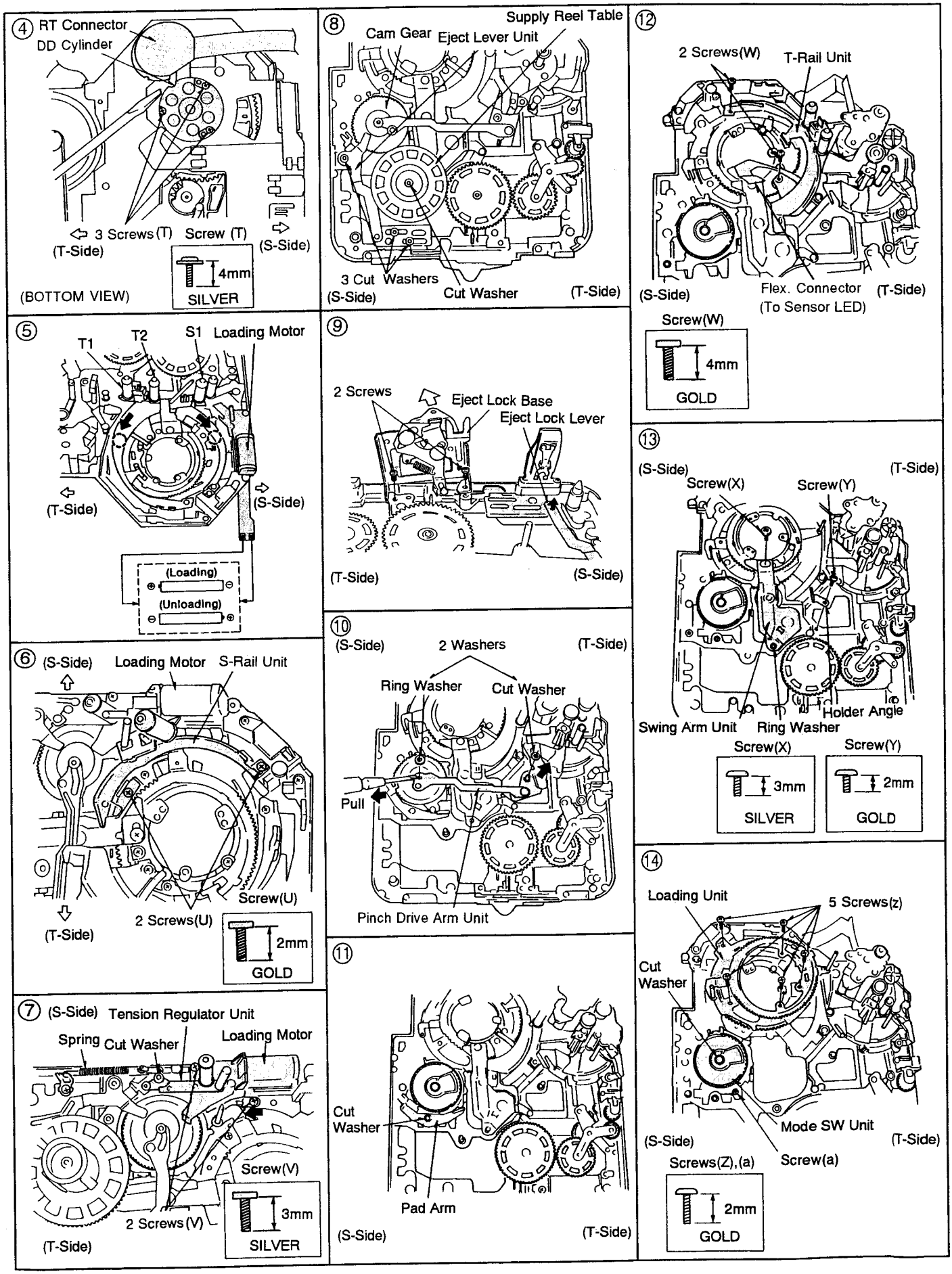
3. Multi-form Extension Cable Set.
   Now you can make any kind of extension cable required, by simply changing the attachment connectors. All of the connectors which cover all extension cables since 1990, are simply organized in a "A5 System File". When you need a new connector for a new model, it can be purchased at extremely low price.

Note: *PC and *Camera are not included in the kit.The minimum requirement of the PC is 80286 CPU,1MB RAM, and MS-DOS 3.2. For further information, please contact Video Equipment Division.

3 DISASSEMBLY PROCEDURES OF MECHANISM

No.	Items	Fig.	R:Removal / S:Unsolder	
1	Cassette Holder U.	①	S	2 Flex. Connectors
		②	R	4 Red Screws(2mm)
		③	–	Release Eject Lock Lever
2	S.Guide Stand U.	②	R	1 Gold Screw (4mm)
3	DD Cylinder U.	④	R	RT Connector
			R	3 Silver Screws(4mm)
4	Supply Rail U.	⑤	–	Make loading half way with a 1.5V battery.
		⑥	R	2 Gold Screws(2mm)
5	Loading Motor U.	⑦	R	2 Silver Screws(3mm) *Slightly move loading posts with a battery.
6	Tension Regulator U.	⑦	–	Unhook Tension Spring.
			R	1 Cut Washer
7	Supply Reel Table	⑧	R	1 Cut Washer
8	Eject Lever U.	⑧	R	3 Cut Washers
		⑨	R	2 Screws on Eject Lock Base.
9	Pinch Drive Arm	⑩	R	1 Ring Washer 1 Cut Washer
10	Pad Arm	⑪	R	1 Cut Washer
11	Take-up Rail U.	⑫	R	2 Gold Screws(4mm)
			S	Sensor LED (bottom)
12	Swing Arm U.	⑬	R	1 Gold Screw(2mm)
			R	1 Silver Screw(3mm)
			R	1 Ring Washer
13	Mode SW	⑭	R	1 Gold Screw(2mm)
			R	1 Cut Washer
14	Loading U.	⑭	R	5 Gold Screws(2mm)

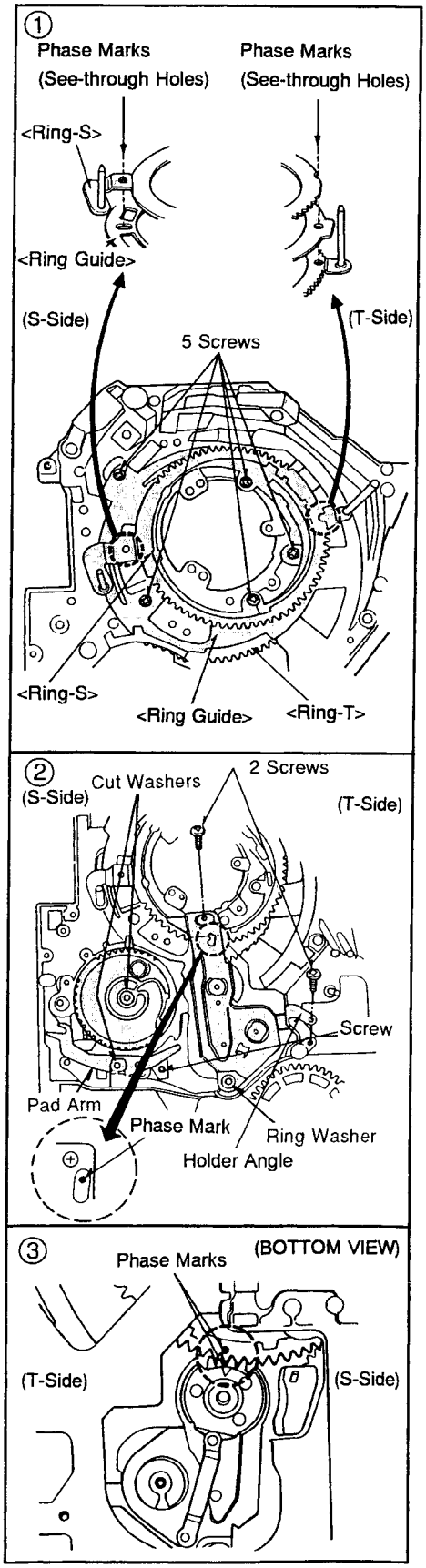


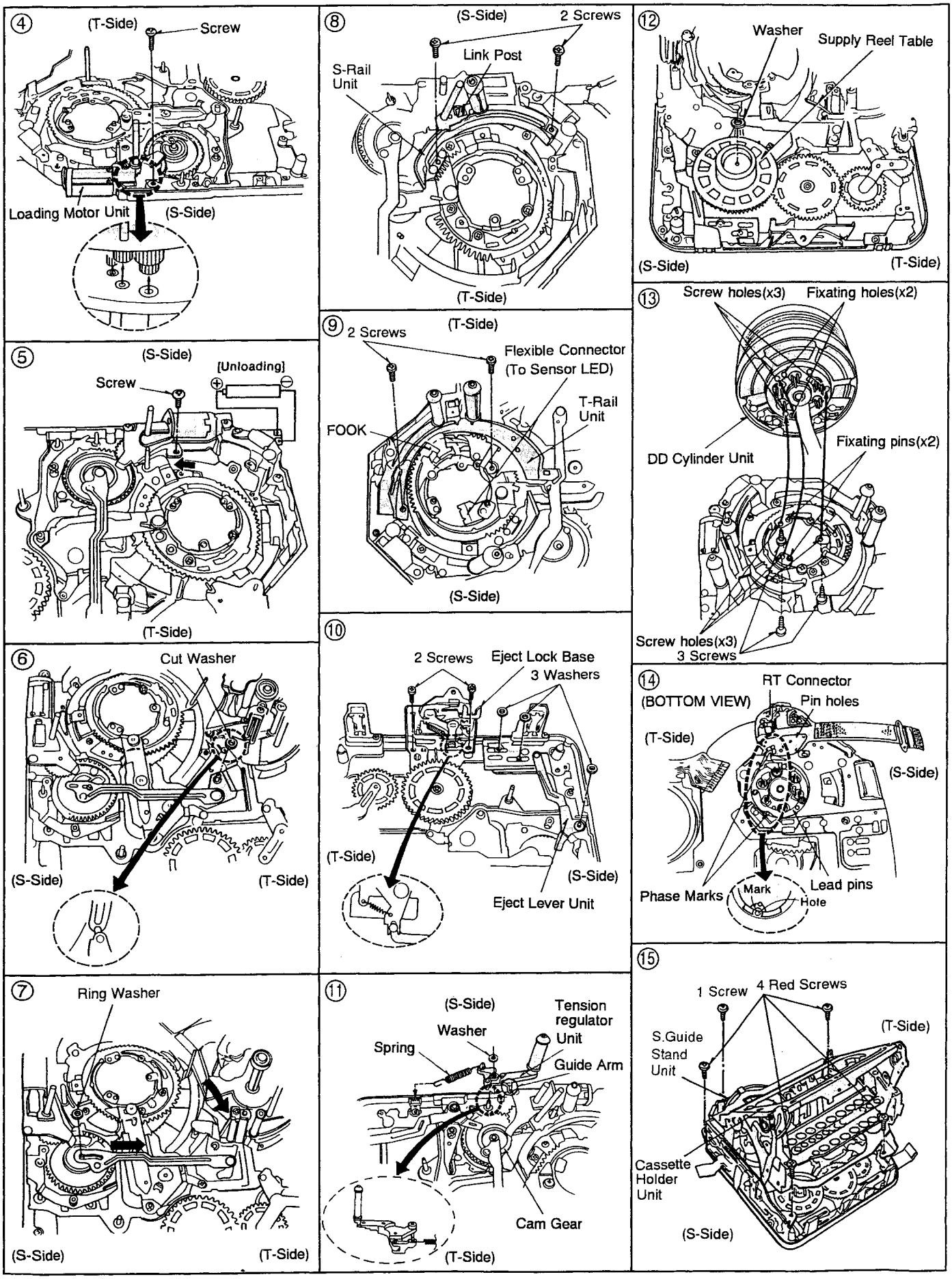

④ RT Connector
DD Cylinder
⇦ 3 Screws (T)
(T-Side)
Screw (T)
(S-Side)
4mm
SILVER
(BOTTOM VIEW)
⑧ Supply Reel Table
Cam Gear
Eject Lever Unit
3 Cut Washers
(S-Side)
Cut Washer
(T-Side)
⑫
2 Screws(W)
T-Rail Unit
(S-Side)
Flex. Connector
(To Sensor LED)
(T-Side)
Screw(W)
4mm
GOLD
⑤
T1
T2
S1
Loading Motor
(T-Side)
(S-Side)
(Loading)
(Unloading)
⑨
2 Screws
Eject Lock Base
Eject Lock Lever
(T-Side)
(S-Side)
⑬
(S-Side)
(T-Side)
Screw(X)
Screw(Y)
Swing Arm Unit
Ring Washer
Holder Angle
Screw(X)
3mm
SILVER
Screw(Y)
2mm
GOLD
⑥ (S-Side)
Loading Motor
S-Rail Unit
Screw(U)
2 Screws(U)
(T-Side)
2mm
GOLD
⑩
(S-Side)
2 Washers
(T-Side)
Ring Washer
Cut Washer
Pull
Pinch Drive Arm Unit
⑭
Loading Unit
5 Screws(z)
Cut Washer
Mode SW Unit
(S-Side)
(T-Side)
Screws(Z),(a)
Screw(a)
2mm
GOLD
⑦ (S-Side)
Tension Regulator Unit
Spring
Cut Washer
Loading Motor
Screw(V)
2 Screws(V)
(T-Side)
3mm
SILVER
⑪
Cut Washer
Pad Arm
(S-Side)
(T-Side)

4 ASSEMBLY AND PHASE ADJUSTMENT PROCEDURES OF MECHANISM

ASSEMBLY & PHASE ADJUSTMENT PROCEDURES

No.	Items	Fig.	A:Assembly / P:Phase Adj. / S: Solder	
1	Loading U.	①	A	5 Gold Screws(2mm)
			P	2 See - through Holes
2	Cam Gear (Mode SW)	②	P	See Page 4. (Fig.5)
			A	1 Cut Washer
			A	1 Gold Screw(2mm)
3	Pad Arm	②	A	1 Cut Washer
4	Swing Arm U.	②③	P	See fig.②,③
		②	A	1 Gold Screw(2mm) with Holder Angle 1 Silver Screw(3mm)
			A	1 Ring Washer
5	Loading Motor U.	④⑤	A	2 Silver Screws(3mm) *Slightly move loading posts with a battery.
6	Pinch Drive Arm	⑥⑦	A	1 Ring & 1 Cut Washers
7	Supply Rail U.	⑧	A	2 Gold Screws(2mm)
8	Take-up Rail U.	⑨	A	2 Gold Screws(4mm)
			S	Sensor LED (bottom)
9	Eject Lever U.	⑩	A	3 Cut Washers
			A	2 Screws on Eject Lock Base.
10	Tension Regulator U.	⑪	A	1 Cut Washer
			–	Hook Tension Spring
11	S. Reel Table	⑫	A	1 Cut Washer
12	DD Cylinder U.	⑬	A	3 Silver Screws(4mm)
13	RT Connector	⑭	P	See fig.⑭
			A	*No Screw
14	S.Guide Stand U.	⑮	A	1 Gold Screw (4mm)
15	Cassette Holder U.	⑮	A	4 Red Screws(2mm)
			S	2 Flex. Connectors

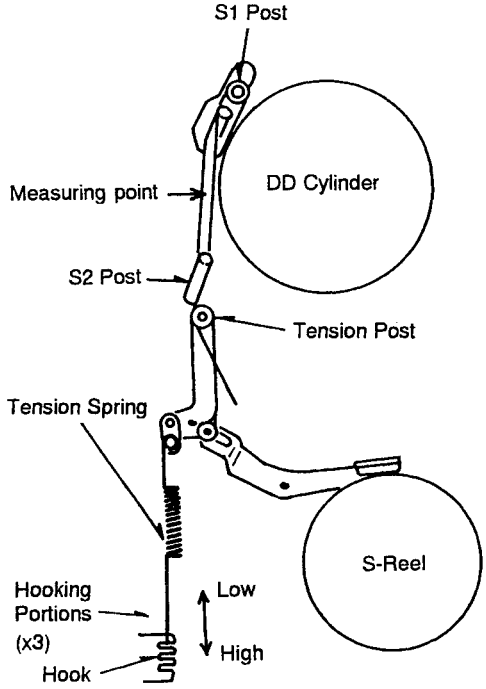



④
(T-Side)
Screw
Loading Motor Unit
(S-Side)
⑤
(S-Side)
[Unloading]
Screw
(T-Side)
⑥
Cut Washer
(S-Side)
(T-Side)
⑦
Ring Washer
(S-Side)
(T-Side)
⑧
(S-Side)
2 Screws
Link Post
S-Rail Unit
(T-Side)
⑨
2 Screws
(T-Side)
Flexible Connector (To Sensor LED)
T-Rail Unit
FOOK
(S-Side)
⑩
2 Screws
Eject Lock Base
3 Washers
(T-Side)
(S-Side)
Eject Lever Unit
⑪
(S-Side)
Tension regulator Unit
Washer
Spring
Guide Arm
Cam Gear
(T-Side)
⑫
Washer
Supply Reel Table
(S-Side)
(T-Side)
⑬
Screw holes(x3)
Fixating holes(x2)
DD Cylinder Unit
Fixating pins(x2)
Screw holes(x3)
3 Screws
⑭
RT Connector
(BOTTOM VIEW)
Pin holes
(T-Side)
(S-Side)
Phase Marks
Mark
Hole
Lead pins
⑮
1 Screw
4 Red Screws
(T-Side)
S.Guide Stand Unit
Cassette Holder Unit
(S-Side)

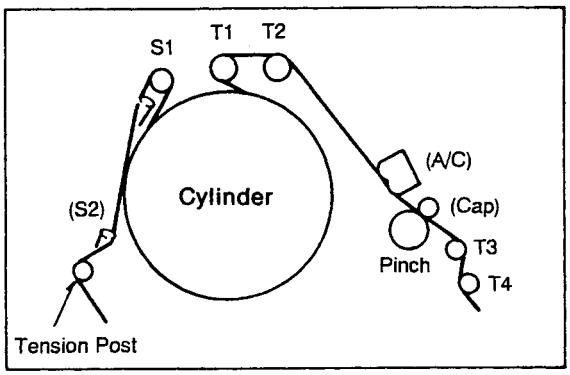
5 INTERCHANGEABILITY ADJUSTMENT

No.	Items	Fig.	Adjustment Procedures
1	Back Tension	①	Equipments: 1. Tension Meter (VFK0132) 2. VHS-C Cassette Tape Specification: 16.5g-21.0g 1. Play back a tape. 2. Set Tension Meter at the measuring point, and read the value. 3. If the value is out of specification, change the hooking position of Tension Spring.
2	Height of Tape Guide Posts (Preliminary Adjustment)	② ④	Equipments: 1. Hex Wrench 2. VHS-C Cassette Tape Specification: No tape curling 1. Play back a tape. 2. Confirm the tape travel at upper and lower guides on posts S1, T1, T2 and T3. 3. If curling is apparent, adjust the height of posts by turning the top of post with Hex Wrench.
3	Height of A/C Head (Preliminary Adjustment)	③ ④	Equipments: 1. Box Wrench 2. VHS-C Cassette Tape Specification: See Fig. ③ 1. Play back a tape. 2. Confirm that the tape runs 0.25mm above the lower edge of Control Head. 3. If does not correct, turn Height Adjustment Nut in either direction as necessary to correct it.
4	Tape Interchangeability	⑤ ⑥ ⑨ ④ ⑤ ⑤ ⑥ ② ⑦ ② ⑧	Equipments: 1. Dual Trace Oscilloscope 2. Alignment Tape 3. H-Position Adjustment Driver 4. Asterisk Wrench Specification: Azimuth :Maximum Audio Output H-Position :Maximum RF Output RF Envelope :No Lack of RF Output Preparation: 1. Press Tracking Up / Down buttons at the same time to set the tracking control in the center of the variable range. 2. Play back the monoscope portion (6KHz, MONO) of the Alignment Tape. Adjustments: Azimuth Adjustment for A/C Head 1. Connect the oscilloscope to Audio Line Output. 2. Adjust Azimuth Adjustment Screw so that the audio output level is at the maximum. Horizontal Position Adjustment for A/C Head 1. Connect the oscilloscope to RF Output terminal (e.g.: TP8001). 2. Adjust the horizontal position by turning H-Position Adjustment Nut so that the RF envelope is at the maximum. Height Adjustment for Tape Guide Posts 1. When the RF envelope is lacked at the beginning of the track, adjust the height of S1 post. 2. When the RF envelope is lacked at the end of the track, adjust the height of T1 post.

①

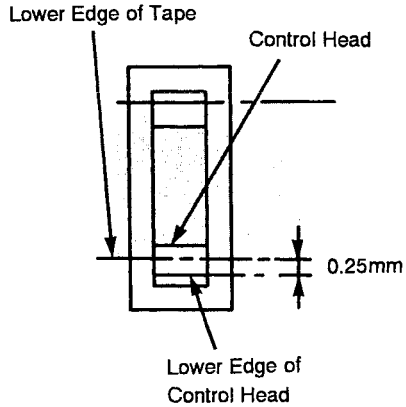

S1 Post
DD Cylinder
Measuring point
S2 Post
Tension Post
Tension Spring
S-Reel
Hooking
Portions
(x3)
Hook
Low
High

②

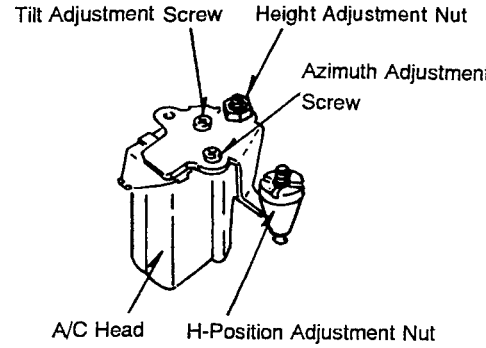

S1
T1
T2
(A/C)
(Cap)
T3
T4
Pinch
(S2)
Cylinder
Tension Post

NO GOOD
GOOD
NO GOOD

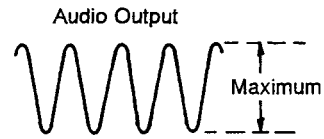
③


Lower Edge of Tape
Control Head
0.25mm
Lower Edge of
Control Head

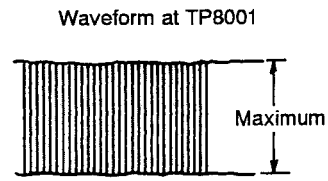
④


Tilt Adjustment Screw
Height Adjustment Nut
Azimuth Adjustment
Screw
A/C Head
H-Position Adjustment Nut

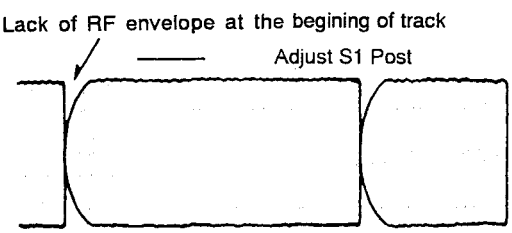
⑤


Audio Output
Maximum

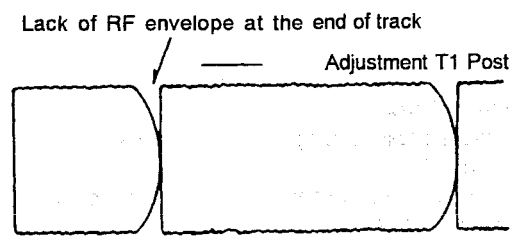
⑥


Waveform at TP8001
Maximum

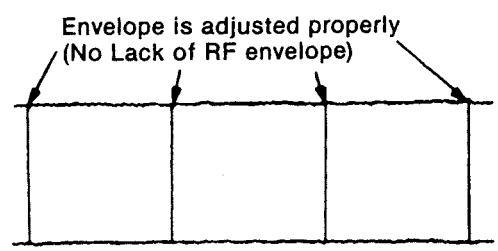
⑦


Lack of RF envelope at the begining of track
Adjust S1 Post

⑧


Lack of RF envelope at the end of track
Adjustment T1 Post

⑨


Envelope is adjusted properly
(No Lack of RF envelope)

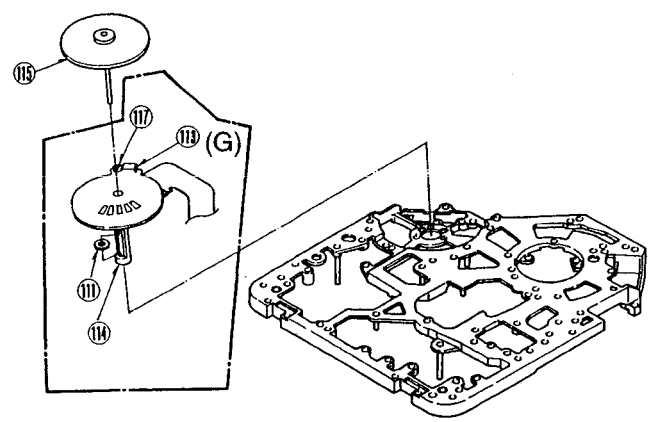
6 SERVICE HINTS

FAULT FINDING CHART FOR DL MECHANISM

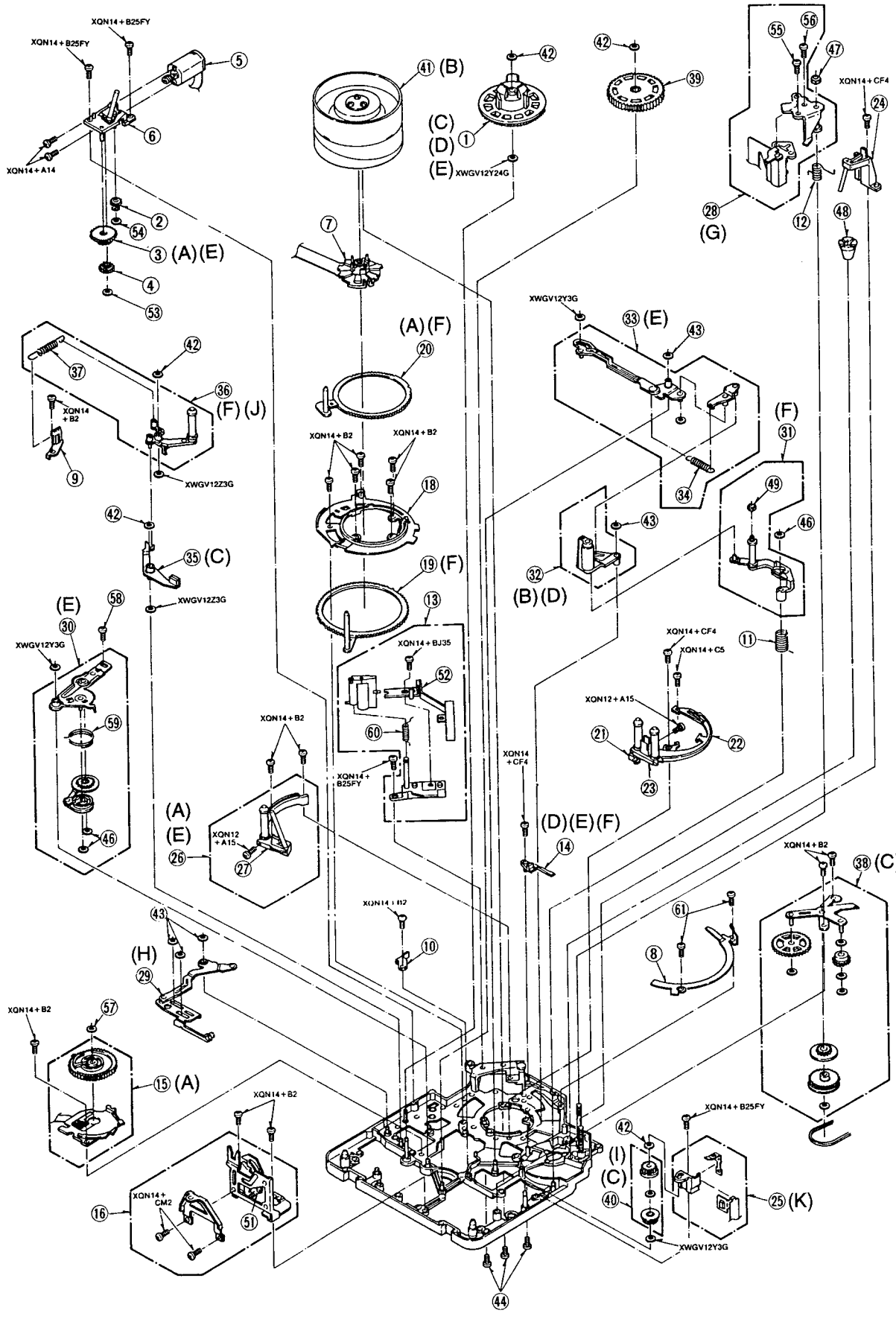
REF.	SYMPTOMS	PARTS TO BE CHECKED		
		PARTS NAME	PARTS NO.	REF. NO.
(A)	No Mechanical Operation	BRAKE GEAR (B)	VDG0822	③
		MODE SWITCH (CAM GEAR)	VSR0096	⑮
		S-RAIL UNIT	※1 VXA5153 (VXA4532)	㉖
		S-RING UNIT	VXA4519	⑳
(B)	Power Cut Off	PINCH ARM UNIT	VXL2139	㉜
		CYLINDER UNIT	※2 NOTE	㊶
(C)	Tape Slack	REEL BASE (S)	VDR0226	①
		PAD ARM UNIT	VXL2144	㉟
		T-DRIVE GEAR UNIT	VXP1313	㊵
		IDLER UNIT	※1 VXL2399 (VXL2147)	㊳
(D)	Tape Jam	PINCH ARM UNIT	VXL2139	㉜
		REEL BASE (S)	VDR0226	①
		T-BOAT GUIDE	VMD1851	⑭
(E)	Faulty Loading	PINCH DRIVE ARM UNIT	VXL2140	㉝
		S-RAIL UNIT	※1 VXA5153 (VXA4532)	㉖
		REEL BASE (S)	VDR0226	①
		BRAKE GEAR (B)	VDG0822	③
		SWING ARM UNIT	※1 VXL2401 (VXL2133)	㉚
		T-BOAT GUIDE	VMD1851	⑭
(F)	Noisy Playback Picture	T-BOAT GUIDE	VMD1851	⑭
		TENSION REGULATOR ARM UNIT	VXL2145	㊱
		T-RING UNIT	VXA4518	⑲
		S-RING UNIT	VXA4519	⑳
		T3 ARM UNIT	VXL2415	㉛
(G)	Periodic Noise on Playback Picture	AC HEAD UNIT	※1 VXA5201 (VXA4998)	㉘
		MR HEAD	VBK0059	㉝
(H)	No Eject Operation	EJECT LEVER (1) UNIT	※1 VXL2393 (VXL2130)	㉙
		MECHANICAL PHASE ADJUSTMENT		
(I)	Audio Wow	T-DRIVE GEAR UNIT	VXP1313	㊵
(J)	Scratch on Tape	TENSION REGULATOR ARM UNIT	VXL2145	㊱
(K)	Stop after few Sec. Play	T-REEL SENSOR UNIT	VXA4997	㉕

※1 **NOTE**: Some of the parts have 2 kinds of part number. Basically, part number in the bracket "( )" is an old (early) type.
For more detail, please refer to each Service Manual.

※2 **NOTE**: Confirm the part number with the Service Manual model by model.



VTR MECHANISM SECTION



Note: Symbols (A)-(K) beside the reference number of each parts show the symptom concerned with the parts (Refer to page 14).

MEMO

Order no. VMD9708028S0

Service Manual

Supplement

Video Product

Effective from : First Production

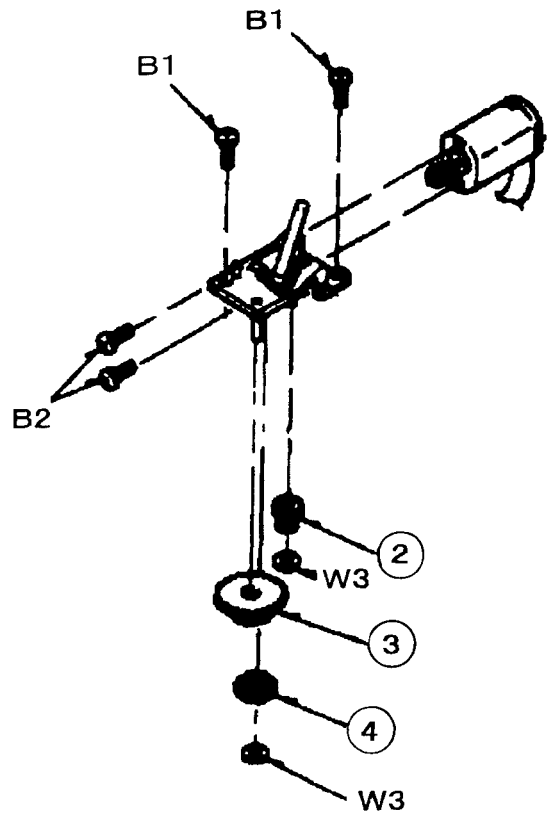
Model No. DL Mechanism's Movie Camera

Subject : Correction of Parts List

Please use this service manual together with the service manual for DL Mechanism's Movie Camera.

Please correct parts list as follows.

Ref. No.	Part No.	Part name	Pcs
2 (1)	VDG0821	BRAKE GEAR (A)	1
3 (1)	VDG0823	BRAKE GEAR (C)	1
4 (1)	VDG0822	BRAKE GEAR (B)	1



⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

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